

Chilton's MOTOR AGE

OCTOBER 1951



In This Issue:

Ring Job Note Book



Tough

BUT OH SO GENTLE

TOUGH on oil-pumping
GENTLE on cylinder walls

● Hastings Steel-Vent is the ring that's engineered exclusively for replacement service and for *all* replacement service—in re-bore, re-ring and re-sleeve jobs.

This famous piston ring is the heart of all Hastings Motor Engineered Sets. It really controls oil. It can't clog. Oil flows

freely through the spacer's wide vents.

Whatever the engine condition, whatever the operating condition, Hastings gives you the right combination built around the famous Steel-Vent Ring.

HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN
PISTON RINGS • SPARK PLUGS • OIL FILTERS • CASITE • DROUT

HASTINGS

THE RIGHT COMBINATION FOR
EVERY ENGINE CONDITION



Steel-Vent Set—the famous Tough-but-oh-so-Gentle steel oil control ring in a Motor Engineered Set.



Hastings 2C Set—With chrome on the two oil control rings, the Steel-Vent and the Hastings Chromilube (an auxiliary type oil-compression ring).



Hastings 3C Set—A complete chrome set-up with Chrome-Faced Steel and Chrome-Tel compression ring for extreme operating conditions.

KEEP COOLING SYSTEMS

Cool



Complete Cooling System Service In One Package

- Non-acid cleaner that quickly removes rust, scale, grease and slime in one simple operation.
- Double Action Radiator Cement to seal leaks.
- Rust Preventor to prevent rust formation.

An acid cooling system cleaner in liquid form that completely dissolves rust and scale from radiator, cylinder head and block. Makes reverse flushing rarely necessary.

PERMATEX COMPANY, INC., BROOKLYN 35, N. Y.

Chilton's MOTOR AGE, OCTOBER, 1951

Everybody
Knows...

PROTO means
PROfessional
TOols!



TOOLAGRAM



"3/8"
Drive

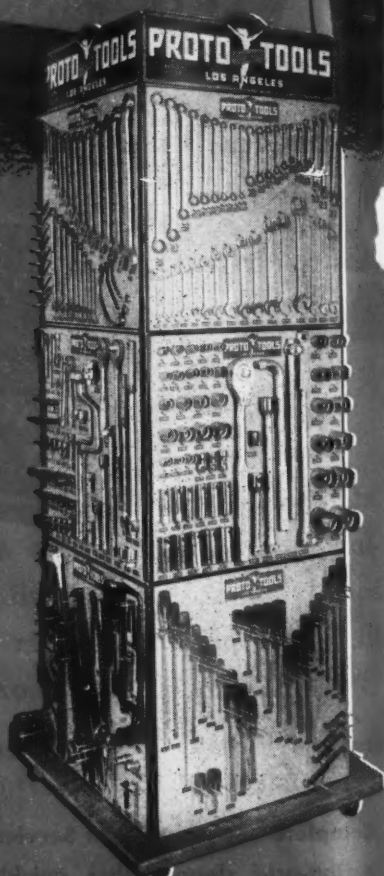


"1/2"
Drive



BIG NEWS! PROTO has thin-wall hexagon (6-point) sockets, guaranteed for power or hand use. These sockets can be used wherever a 12-point type will fit, and they are stronger and longer-lived. Hexagon sockets safely turn stubborn, undersized, rusted, damaged or soft metal nuts.

Our smart Adjustabull is bellowing that men who really know tools demand PROTO every time. Experts know that PROTO gives them outstanding features—special alloy steels, proper forging, scientific heat treating, accurate manufacture, user-tested designs. They also know that PROTO tools are leaders in the field, and that PROTO's extra-long life and sound guarantee protect their tool investment. Your PROTO dealer knows you want the best and has a great many types and sizes of professional tools to meet your needs. Buy them today! Send 10¢ for 68-page catalog to



PLUMB TOOL COMPANY
2226L Santa Fe Ave., Los Angeles 54, Calif.

PROTO TOOLS

REG. U.S.
PAT. OFF.

LOS ANGELES

MADE
IN U.S.A.

Chilton's MOTOR AGE

WITH WHICH IS COMBINED AUTOMOBILE TRADE JOURNAL

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For THE AUTOMOTIVE SERVICE INDUSTRY

Vol. LXX, No. 11

October, 1951

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Racing or Selling—Service Wins

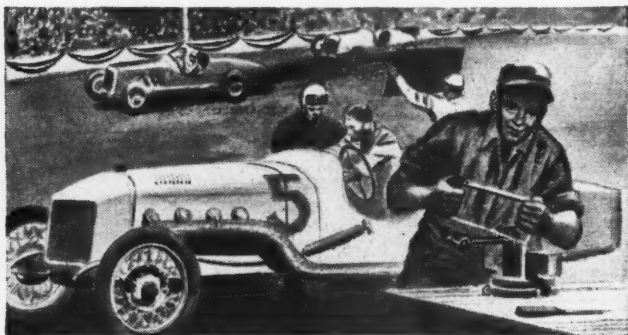
—Says Marty



Reading Time: 1 min., 42 sec.

The men in the service pits may get no medals . . . but their work shows up at the finish!

"Our family farm was hardly big enough to offer a living for my two older brothers let alone provide a future for me," Marty Denton, successful automobile dealer, recalls today. "Because they did all the heavy work, I became the machinery repair man. Probably that's why I got a set of books on automobile mechanics one Christmas."



Marty all but learned his prized books by heart. When the chores were done and it was too dark to work on the machinery, the lamp burned late above the kitchen table as Marty absorbed the fascinating mysteries of internal combustion engines. And he soon was using the knowledge he gained. At eighteen he left the farm for a job as helper in a garage owned by a famous race driver. Under this expert guidance, Marty advanced rapidly in ability. His long hours of study were paying off. "In this world," his race-driver boss often told him, "you win the races in the pits. If your car is serviced right, anyone can do the steering."

"Perhaps that is putting it a little strong," Marty adds, "but I soon found that in the garage as in the race track pits, it does take good service to win. A satisfied customer comes back and brings more customers with him."

Ten years later, Marty started in for himself. His reputation for service had won so many friends, his garage was a success from the start. His opinion carried so much weight with these car owners that they were constantly asking his advice when they bought cars.



These sales were important enough to win him a profit-sharing agreement as a service manager with one of the biggest dealers in the state.

Marty worked, watched, learned, and saved his money. And before many years had passed, a long-cherished dream came true. On a visit to Detroit, Chrysler factory officials, after careful investigation, accepted his application for a dealership, and in short order, the years of toil earned the great reward, the big sign was hoisted over "DENTON MOTOR SALES, CHRYSLER-PLYMOUTH DEALERS."



"In a business like this, which plays such an important part in the prosperity of America," Marty sums it up, "I figure you can't go wrong if you use sound principles. All business is a race against tough competition. My answer is get a fine car, then back it with the best in service. There's no better formula for a successful future."

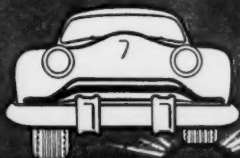
Write for our free booklet containing a number of these stories of accomplishments by enterprising men. Chrysler Corporation, 341 Massachusetts Ave., Highland Park 3, Mich.



Chrysler Corporation

PLYMOUTH • DODGE • DE SOTO • CHRYSLER • DODGE "Job-Rated" TRUCKS
Fine Cars of Great Value

THERE ARE COIL SPRINGS and MOOG COIL SPRINGS



DON'T COMPARE THEM BY
JUST LOOKING AT THEM!

SIZE
OF
WIRE

HEAT
TREATMENT

NUMBER
OF
COILS

TYPE
OF
STEEL

FREE
LENGTH
OF THE
STEEL

MOOG DESIGNS AND MAKES A PART TO DO A
BETTER JOB THAN THE ONE IT REPLACES

The size of the wire, heat treatment, type of the steel, free length of the steel, and number of coils, are a few of the elements that can vary and must be considered in top quality coil springs.

Install Moog Springs for best results, because Moog Springs are designed to carry the car at the right height, give superior performance and long life. Remember, choose coil springs on determined quality and workmanship, *not just by looking at them.*

Always use Moog Coil Springs in Matched Pairs. Extra Heavy Duty Coil Springs also available.

Go after this great replacement business — more than 30,000,000 (thirty million) cars are equipped with coil springs.

MOOG INDUSTRIES, INC. ST. LOUIS 14, MO.

Divisions:
MOOG COIL ACTION PARTS CO.
MOOG PISTON RING COMPANY
ST. LOUIS SPRING COMPANY

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The Finest Thing in Coil Springs

Rolling our trade mark "MOOG" into the steel is our positive identification of all Moog Coils.



SELF-CONTROL, STARTS HERE



AND TO RESTORE
ENGINE PERFORMANCE

OIL-CONTROL STARTS HERE

To stop oil-pumping, replace worn
engine bearings

An oil-pumper, with dirty exhaust smoke, is a nuisance in the public eye, as well as a pain in the owner's pocketbook!

Tell your customers the facts about oil-pumping, caused by worn main and connecting rod bearings. They let excess oil reach combustion chambers, where it burns to performance-stealing carbon on pistons, rings, valves and spark plugs. *Performance goes up in smoke!*

Give new piston rings a chance to do their own job—always replace worn bearings, too. Federal-Mogul is the *best-known brand* of replacement engine bearings. They're *engineered* for the job of oil-control!

FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)

DETROIT 13, MICHIGAN



control oil-pumping where it starts—REPLACE WITH

FEDERAL-MOGUL



BEARINGS



Easy to Install

DELCO-REMY DISTRIBUTOR RENEWAL PACKAGES



*Popular renewal
package assortment
No. 191584*



DELCO-REMY—A UNITED MOTORS LINE
Available Everywhere Through
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You can be sure of satisfactory performance and of satisfied customers when you service Delco-Remy distributors with these genuine Delco-Remy renewal breaker plates — now packaged for your convenience. They are easy to install without special tools and, because they are Delco-Remy built to original equipment specifications, they are bound to fit.

Delco-Remy packaged distributor renewal breaker plates fit scores of six- and eight-cylinder models, cars and trucks, both old and new. Order the popular assortment containing six packages — four breaker plates with contact points, condenser and molded bearings, assembled; two breaker plates with molded bearings only. Get your supply today — through your UNITED MOTORS DISTRIBUTORS.

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DIVISION, GENERAL MOTORS CORPORATION
ANDERSON, INDIANA

WHEREVER WHEELS TURN OR PROPELLERS SPIN

Conformability in Piston Rings

IMPORTANT IN NEW ENGINES

ESSENTIAL IN RE-RING JOBS!

The effort to develop more power . . . without increasing engine weight, engine cost, or consumption of fuel and oil . . . has naturally led to higher compressions, and, in turn, to higher heats and increased tendency to block distortion.

For this reason, rings that are highly conformable are more important than ever before in the manufacture of new engines. Obviously this holds true to an even greater degree in worn engines. Whenever cylinders become distorted or out-of-round, conformability in piston rings becomes vital. The control of blow-by and the maintenance of compression require the most conformable piston rings that can be had—and Pedrick has them! Get Pedrick rings in guaranteed Engineered Sets from your Pedrick jobber. WILKENING MANUFACTURING Co., Philadelphia 42, Pa. In Canada: Wilkening Manufacturing Company (Canada) Ltd., Toronto.

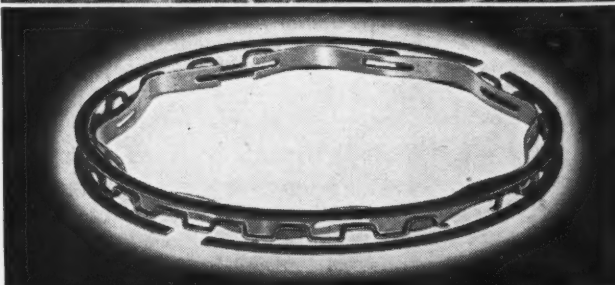
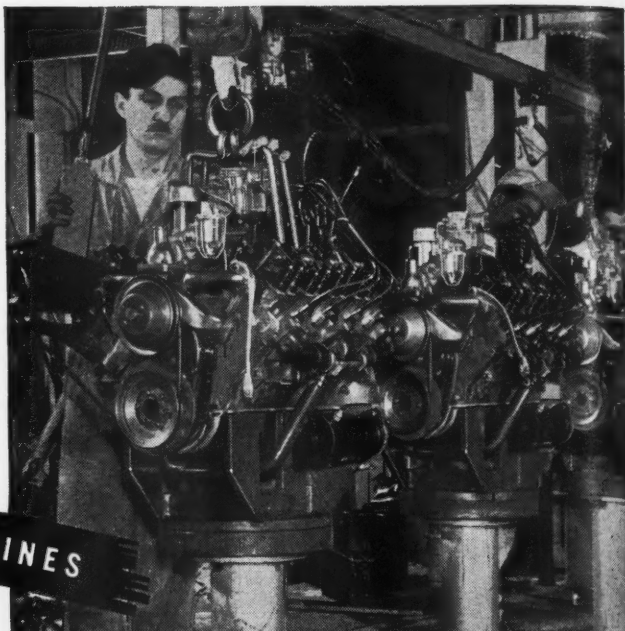
Pedrick
®

"HEAT-SHAPED"

PISTON RINGS

IN GUARANTEED ENGINEERED SETS

FOR 31 YEARS, SUPPLIER OF PISTON RINGS TO
LEADING VEHICLE AND ENGINE MANUFACTURERS



**Here's Conformability—
THE SS4 OIL RING**

- Conforms more readily to tapered and out-of-round cylinders
- Adapts itself to groove depth variations better than any other ring
- Greatest capacity to store and drain oil
- Most uniform pressure distribution
- Outlasts other oil rings by a wide margin

Here's the **A B C** OF EXTRA PROFITS for YOU...

SPECIAL DEAL ON WHIZ COOLING SYSTEM PRODUCTS!

Rustop Protects

Both a rust preventive and waterpump lubricant! A soluble oil-type product with extremely effective anti-rust properties. Excellent lubricant for sealed waterpump systems.



Kleen-Flush Cleans

Powerful acid-type cleaner dissolves rust, scale, sludge and corrosion. No reverse flushing needed. Conditioner neutralizes acidic action.



Instant Sealer Seals

Seeps into all places where leaks occur, and seals leaks solidly even after water is drained out. Will not clog or harm cooling system in any way.

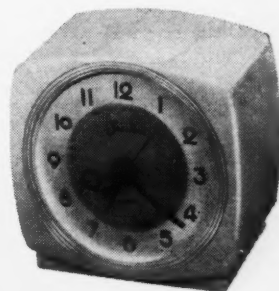


And here's **D** for DEAL!

SPECIAL BONUS DEAL NO. 51-R

Featuring Sessions "Kitty-Belle" Electric Alarm Clock. Sleeps you more quietly, with not even a pu-r-r. Wakes you more cheerfully, with Tru-Bel Alarm—in-sistent, yet pleasant and gentle. A finer quality, quiet electric clock for use anywhere in the house. Beautifully finished in gleaming white, damage resistant plastic. 4" wide, 3 1/4" high with 3 1/4" dial.

	DEALER COST
YOU BUY: 1 case (24 cans) Rustop.....	\$14.40
1 case Kleen-Flush.....	9.00
1 case Instant Sealer.....	9.36
OR: Equivalent dollar value of any WHIZ Cooling System product.	
YOUR BONUS: "Kitty-Belle" Electric Clock.....	4.95
	Plus Fed. Tax
Regular Dealer Price	\$37.71
Your Special Price Only.....	\$32.76



K. M. HOLLINGSHEAD CORPORATION

LEADER IN MAINTENANCE CHEMICALS



Brake Business is Big Business when you sell



Raybestos PG Brake Lining Sets last longer on today's vehicles, make faster stops in today's traffic. They are selected from linings made by 7 different processes. They are proving ground tested and factory-packaged in the right combination for each make and model of vehicle.

PG Ray-BOND for bonding

PG drilled for riveting



Raybestos PG Sets, packaged with this certificate, are featured month after month in the **SATURDAY EVENING POST**

Raybestos

Raybestos Division of RAYBESTOS-MANHATTAN, INC., Bridgeport, Conn.



AMERICA'S BIGGEST SELLING BRAKE LINING

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Radiator Hoses • Fan Belts • Mechanical Rubber Products • Rubber Covered Equipment • Packings • Asbestos Textiles • Powdered Metal Products • Abrasive and Diamond Wheels • Bowling Balls



Neglected Wires do cause FIRES ...lots of them!

Every day, hundreds of papers all over the country headline fires that destroyed cars, trucks, or buses *because of defective wires!*

The Fire Report for the City of Philadelphia shows that the "chief known cause of fires in 1950" was automobile short circuits.

When you finance a car, you can't drive it away until it has been protected by fire insurance!

Defective wires are the worst fire hazard in motor vehicles. So, check the wire on *every* job! Replace dangerous wiring with genuine Crescent Wiry Joe ignition wires and battery cables. They eliminate fire hazards . . . improve engine performance in the bargain.



THE CRESCENT COMPANY, INC., Pawtucket, R. I.

Check the wire and cable on every car!





***Ever
hear of a bank
that
gave money away?***

Every day, a bank gives away tens of thousands of dollars in exchange for checks drawn on other banks.

These checks are worthless pieces of paper until they're cleared at a central clearing house. Until that time, the bank has literally given its money away!

It's vital for a bank to keep its books

balanced by clearing these checks in the shortest possible time.

Yet their central clearing houses are hundreds of miles away from many banks!

What do they do?

They make a wise investment! They ship their checks the fastest possible way — by Air Express!

Whether your business is banking or ball-bearings, here are the unique advantages you can enjoy with regular use of Air Express:

IT'S FASTEST — Air Express gives the fastest, most complete door-to-door pick up and delivery service in all cities and principal towns, *at no extra cost.*

IT'S MORE CONVENIENT — One call to Air Express Division of the Railway Express Agency arranges everything.

IT'S DEPENDABLE — Air Express provides one-carrier responsibility all the way and gets a *receipt upon delivery.*

IT'S PROFITABLE — Air Express expands profit-making opportunities in distribution and merchandising.

For more facts call Air Express Division of Railway Express Agency.



AIR EXPRESS
GETS THERE FIRST

GARAGE



A CARTOON FROM THE SATURDAY EVENING POST.

"Soup it up"

The ladies, bless 'em, are important customers. While most prefer to let their husbands "take care of the car," they very often have to have the car serviced or order minor repairs or accessories when he's not around.

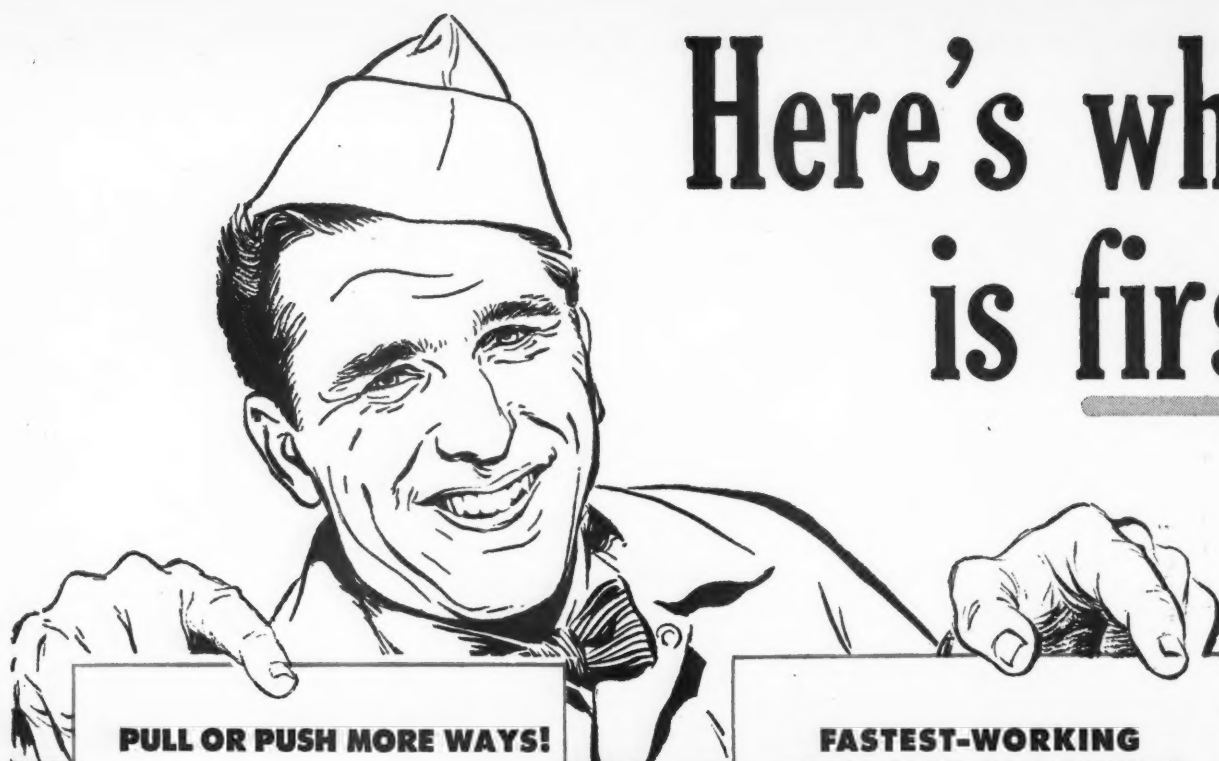
At those times, naturally, the ladies prefer the familiar brands, ones they know and have confidence in, the ones they know their husbands will approve—the nationally advertised, Post-advertised lines.

Another reason for you to stock and feature them—because the Post carries more automotive advertising to more people than any other magazine in the world—you make more sales.



-gets to the
heart of America

Here's why is first



PULL OR PUSH MORE WAYS!

Only with "Porto-Power" do you get *all* the PULL and PUSH attachments and rams demanded by body experts. That's vitally important — it means you can select and apply the *right* set-up for each type of body damage and body style.



FASTEST-WORKING BODY JACK EQUIPMENT!

Only "Porto-Power" — in addition to its larger equipment — offers a *complete* "bantam-weight" body jack line. "Bantam's" 2 tons of power licks 90% of all body work.



The real money-makers insist on *Porto-Power*

Yes, on every count, you make more money with "Porto-Power"! Because it slashes your reconditioning costs, you'll be the low bidder on more jobs. You'll salvage more body sections. And you'll save the time of valuable men and keep 'em happier on the job. Order from your Blackhawk jobber.



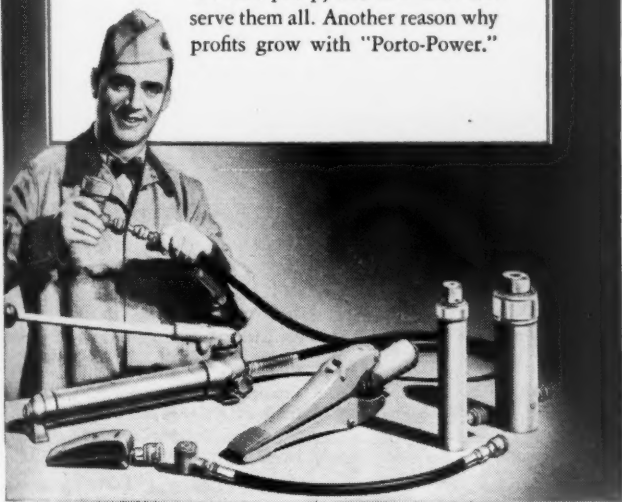
only **BLACKHAWK** makes

Porto-Power®

choice in over 90% of all body shops!

QUICK SWITCH OF RAMS!

Only with "Porto-Power" can you make a 30-second on-the-job switch to any one of these ESSENTIAL hydraulic rams and spreaders for quickest job performance! Thanks to patented "Spee-D-Coupler"—one low-cost pump, one low-cost hose serve them all. Another reason why profits grow with "Porto-Power."



THE ONLY COMPLETE BODY JACK LINE!

And that means you can get "Porto-Power" any way YOU want it—to match your needs. Write today for this NEW "Porto-Power" Catalog! If you own "Porto-Power," use the catalog to make sure you have all the latest attachments . . . that you're up to full profit-power. If you're "Porto-Powerless" this book shows you a sure road to bigger profits.



**more true today than ever:
there's no substitute for "Porto-Power"**

Body shop business is *greater!* And replacement body sections and body experts are sure to be *scarce!* That's why you need the *best* body shop equipment . . . why the great "Porto-Power" superiority is so important to your income.

"Porto-Power" is the exclusive (trade mark registered) product of Blackhawk Mfg. Co.

Porto-Power®

Clip this coupon today!

BLACKHAWK MFG. CO.
Dept. P6101, Milwaukee 1, Wis.

RUSH YOUR FREE CATALOG

on the complete "Porto-Power" line, including all new attachments.

Name.....

Firm.....

Address.....

City..... Zn..... State.....

NEW BATTERIES

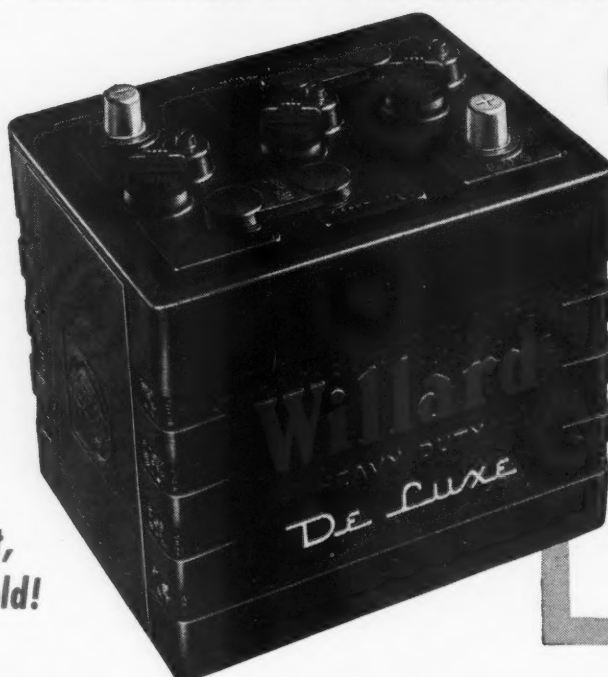
Willard

Heavy Duty De Luxe

**THE MOST POWERFUL BATTERIES AND THE BIGGEST
VALUES YOU CAN OFFER AT POPULAR PRICES TODAY!**

UP TO 56%
MORE STARTING
POWER AT ZERO!

NEW SEALING
COMPOUND
*—Stands more heat,
Stands more cold!*



NEW CONTAINER
—STRENGTH
*where strength
is needed most!*

GROUP 1

100 Ampere Hour Capacity
Fits the following cars—

Chevrolet	Olds ('49-'50
Crosley	—6 cyl.)
Dodge	Plymouth
Kaiser	Studebaker
Nash	Willys

THERE'S A SIZE FOR ALL



GROUP 2

115 Ampere Hour Capacity
Fits the following cars—

Cadillac
Chrysler
DeSoto
Olds ('49-'50 8 cyl.)



GROUP 2L

115 Ampere Hour Capacity
Fits the following cars—

Ford (1947-50)
Hudson
Mercury (1947-50)

For complete list of cars and trucks
WILLARD STORAGE BATTERY COMPANY

With NEW POWER



NEW PROOF



Heat saps the strength of batteries. But the Willard Heavy Duty DeLuxe is built to resist heat. To prove it, a Heavy Duty DeLuxe (Group 1 size) was placed in an oven and baked at 180° Fahrenheit. The battery in the oven was connected to a car. Ninety-five (95) witnesses gasped as the battery cranked through six three-

minute rounds and a seventh round of 2 minutes and 20 seconds—with only one minute rests in between rounds. After a total of 20 minutes and 20 seconds of cranking, the temperature inside the battery was 202° —but the tough Willard container had not bulged, the durable Willard sealing compound had not melted.

CARS AND MOST TRUCKS



GROUP 2E

110 Ampere Hour Capacity
Fits the following cars—
Buick
Olds (1938-48—
6 and 8 cyl.)
Packard
Pontiac



GROUP 2F

115 Ampere Hour Capacity
Fits the following cars—

Ford (1940-46)
Hudson (1948-49)
Lincoln
Mercury (1940-46)

these batteries fit... consult your Distributor

Cleveland • Los Angeles • Dallas • Memphis • Portland • Toronto

AC

OIL FILTERS



AC Aluvac Oil Filter Element

Owners Want This PROTECTION

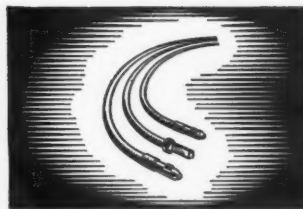
Standard factory equipment on Buick—factory-installed accessory on Oldsmobile and Cadillac—factory-approved for field installation on Chevrolet—that's why a big-volume replacement market is bringing profits to dealers who sell AC Aluvac Oil Filter Elements.

There are AC Aluvac Elements for nearly all filters. It's the fastest growing filter line.



AC AIR CLEANERS AND ELEMENTS

AC Air Cleaners used as equipment by 80% of car manufacturers.



AC SPEEDOMETER CABLE-CASING ASSEMBLIES

Also tailor-made cables, or bulk cable and casing, with parts.



AC

**FUEL
PUMPS**

America's First and Finest Fuel Pumps

Nine out of ten cars and trucks now in service were factory-equipped with AC's, making them America's most popular replacement pumps. 40,000,000 are in daily use. Are you cashing in on this big sales advantage?

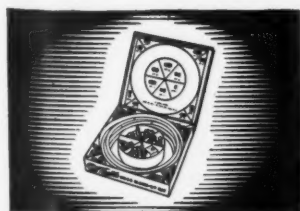
AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION

CORALOX Sells More AC Spark Plugs

Owners want the spark plugs that make their engines run best. That means AC Spark Plugs, with patented CORALOX Insulator. CORALOX greatly resists fouling; oxide coating; failure due to heat shock; misfiring at any engine temperature. That's why almost as many new cars are equipped with AC Spark Plugs as with all other makes combined—and why more and more owners want AC's for replacement.

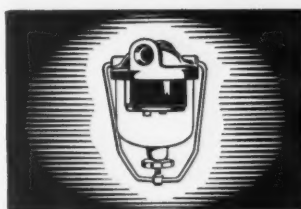
AC

**SPARK
PLUGS**



AC FLEXIBLE GASOLINE AND OIL LINES

Also Make-up Kit, complete with 12 feet of hose and variety of fittings.



AC GASOLINE STRAINERS

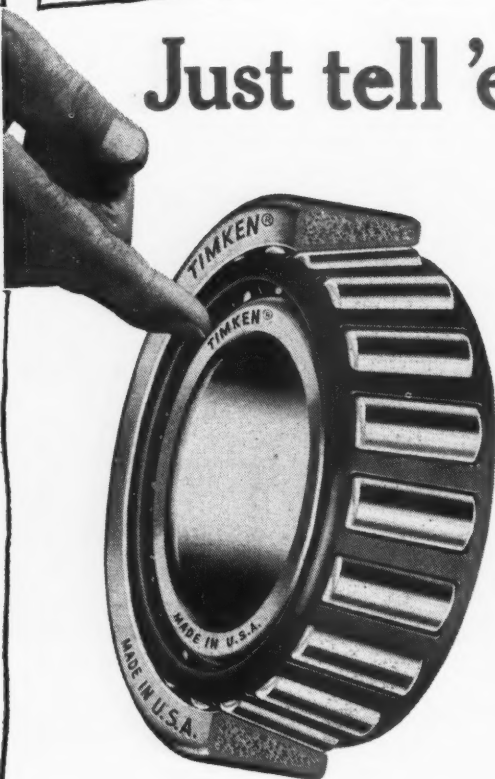
Packed in Counter Merchandiser for display and easier sales.

Want customers
singing your praises?

If you want customers to sing out about your high quality service, make sure they know you use the best replacement parts. When you replace a tapered roller bearing, for instance, be sure to point out the trade-mark "Timken"®. It's the best-known, most respected name in bearings.



Just tell 'em it's "TIMKEN"®









ONLY Timken bearings give you all these advantages: 1) advanced design, 2) special analysis Timken steels, 3) precision manufacture, 4) rigid quality control.

That's why leading automotive manufacturers rate Timken tapered roller bearings their number one choice for original equipment. And that's why it will pay you to use Timken bearings for replacement. NEW, FREE BOOK—"TIMKEN TAPERED ROLLER BEARINGS, THEIR CARE AND MAINTENANCE". Write Dept. AM-10, The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

NOT JUST A BALL  NOT JUST A ROLLER  THE TIMKEN TAPERED ROLLER  BEARING TAKES RADIAL  AND THRUST  LOADS OR ANY COMBINATION 



Your Guarantee

Of New Genuine Original Equipment Carburetors

A Complete, Packaged Line of Fuel and Ignition Equipment
Easier to stock . . . attractive to display . . .
this sealed can guarantees that the carburetor
you sell is genuine original equipment. Over
10,000,000 cars on the road are standard
equipped with Holley fuel and ignition parts.
Stay on the safe side—the original equipment
side—make the big profit. Stock and sell Holley
original equipment carburetors and other fuel
and ignition parts.

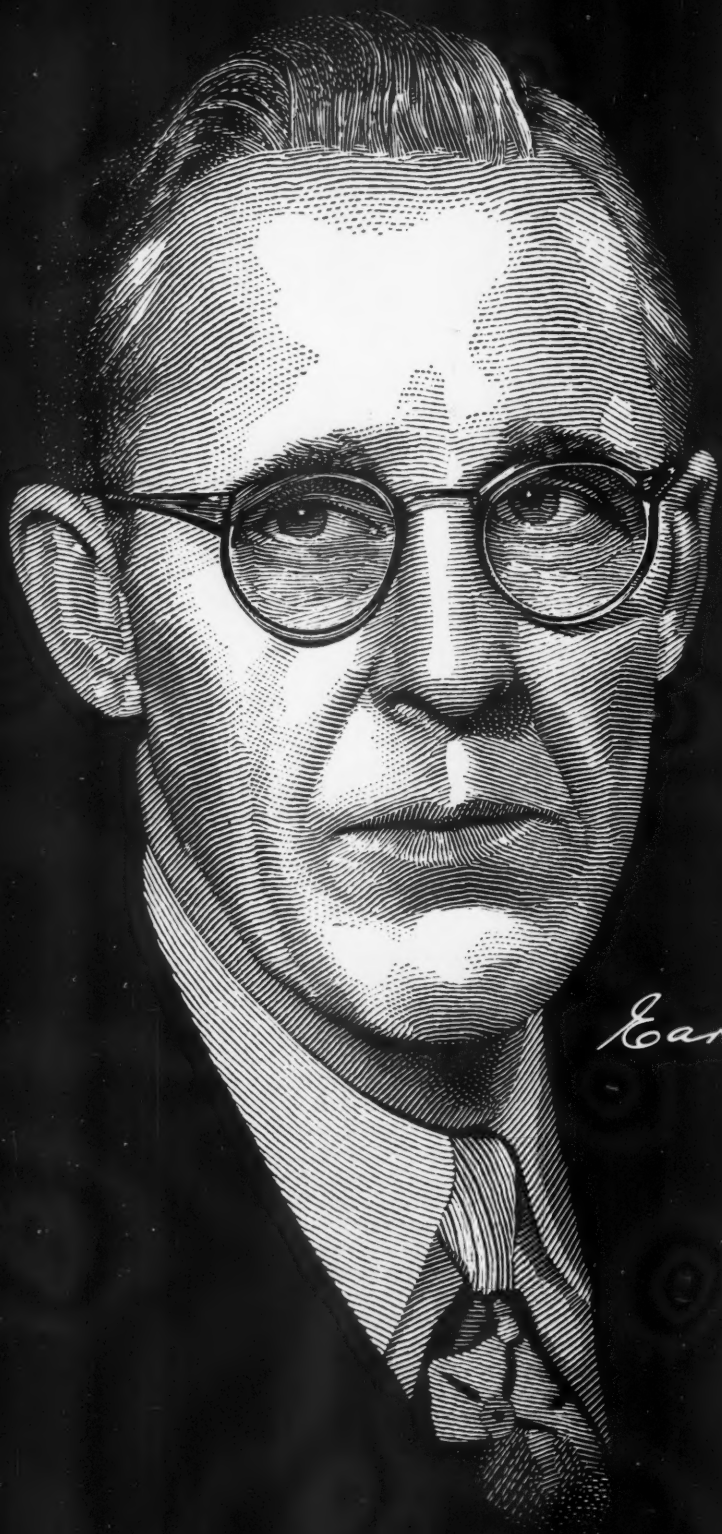
If you are not already an authorized Holley
dealer contact your Holley distributor today.
Remember—authorized Holley service dealers
receive a 40% discount on the entire Holley

line; have a direct factory to dealer contact that
provides new service information within days
after its publication.

HOLLEY

Carburetor Co.

2920 VANCOUVER AVE., DETROIT 4, MICH.
FOR MORE THAN HALF A CENTURY—ORIGINAL EQUIPMENT
MANUFACTURERS FOR THE AUTOMOTIVE INDUSTRY



Earl Hylan

VICE PRESIDENT

ANDREW JOHNSON COMPANY
CHICAGO 22, ILLINOIS

"ONE WAY we decide whether or not to take on a different line of products is to compare it point-by-point with those we have," says Earl Hylen of Andrew Johnson Company, Chicago, Illinois.

"That's what we did when we took on the Auto-Lite Battery line years ago. We found by comparison that Auto-Lite had by far the strongest, most consistent sales and advertising campaigns.

"Only the Auto-Lite 'Sta-ful' Battery is promoted on network television and radio, plus national magazines, farm magazines and newspaper advertising.

"In addition, Auto-Lite Batteries are original equipment on millions of America's finest cars and trucks. All this adds up to the best sales opportunity ever offered in the business."



AUTO-LITE BATTERIES



LET THE PEOPLE'S



CHOICE BE YOUR CHOICE

STOCK and SELL



CHAMPION

First in Replacement Sales

For Over 25 Straight Years!

BE A CHAMPION DEALER *IT PAYS!*

CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO

Listen to the CHAMPION ROLL CALL . . . Harry Wismer's fast sportscast every Friday night, over ABC network

Chilton's MOTOR AGE, OCTOBER, 1951

Here's Why-*The new* *... outlasts other*

NOW EXIDE GIVES YOU AN OPPORTUNITY TO BOOST YOUR BATTERY BUSINESS:
**A SENSATIONAL NEW BATTERY WITH REVOLUTIONARY NEW
FEATURES THAT GIVE IT AMAZINGLY LONGER LIFE!**

So startling are the results of continuing tests that we hesitate to predict just how long this remarkable new battery will last. But barring

accident or downright neglect, the owner of an ULTRA START will not have to buy another battery for a long, long time!



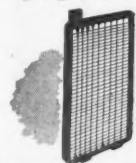
WHEN IT'S AN *Exide* YOU START

EXIDE ULTRA START

automobile batteries

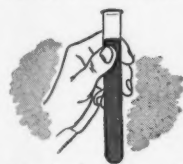
THESE EXCLUSIVE FEATURES MAKE ULTRA START THE BATTERY THAT EVERY THINKING MOTORIST WILL WANT IN HIS CAR!

SILVIUM THE CORROSION-RESISTANT GRID ALLOY!



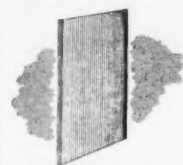
SILVIUM is Exide's newly developed alloy of silver, lead, and other components. SILVIUM defeats a battery's most destructive enemy—grid corrosion caused by overcharging, which accounts for 60% of all battery failures. Corroding tests of SILVIUM grids show a life span more than double that of ordinary grids!

ACTIVE MATERIAL NEW FORMULA!



The power capacity of a battery depends largely upon the active material in the plates. The ACTIVE MATERIAL in the ULTRA START is an entirely new formula, developed by Exide after exhaustive electrochemical research. So effective is the new active material of the ULTRA START that it is possible to take full advantage of the benefits of an acid solution of lower specific gravity (1.260 full charge).

PORMAX PRACTICALLY INDESTRUCTIBLE SEPARATORS!



PORMAX is a plastic separator... extremely resistant to heat and acid... flexible and tough. It has many times the life of separators used in ordinary batteries. In fact, under comprehensive testing, one set of 42 PORMAX separators gave results equivalent to approximately eight years of service in an automobile! And, because PORMAX is extremely porous and has low internal resistance, it increases cold-weather starting ability!

PLUS THESE OTHER OUTSTANDING ULTRA START FEATURES:

VITREX RETAINERS—a glass-plastic composition • ELEMENT PROTECTOR—guards each element from physical damage • PLASTIC CONNECTOR SHIELDS—eliminate danger of shorting battery by metal objects laid on top • PLASTIC VENT CAPS—a new type which prevents loss of electrolyte • IMPROVED SEALING COMPOUND—seals battery elements firmly in place; stays tight in high or low temperatures • SHOCK RESISTANT CONTAINER—ruggedly built, strongly reinforced; has great mechanical strength.

NATIONAL ADVERTISING SUPPORTS YOUR SALES OF ULTRA START!

ULTRA START is the biggest news in storage battery history! The story is being told to car owners in your own neighborhood by hard-hitting advertising in such sales-making magazines as THE SATURDAY EVENING POST, LIFE, COLLIER'S, TIME, COUNTRY GENTLEMAN, and FARM JOURNAL. These publications have a combined circulation of more than 61,437,000 readers!

Your customers will want the ULTRA START—the battery that's built to last longer. Be ready to supply them.

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 2
Exide Batteries of Canada, Limited, Toronto

"EXIDE", "PORMAX" and "VITREX" Reg. Trade-marks U.S. Pat. Off.
"ULTRA START"—T.M. Reg. applied for.

Order ULTRA START batteries from your Exide Distributor today.



Mr. Salesman: Here's a feature of this car that adds to its comfort and value. The fellow who designed it used **genuine leather** in upholstering the front seat and all points of wear. See how the smart color of the leather fits the whole scheme . . . gives it a custom finish.

Mrs. Customer: That is smart. And now I'll be able to get in and out of the driver's seat easily—without my coat clinging to the upholstery.

Mr. Customer: Yes, my dear, you're usually in the "driver's seat," but I'll appreciate the longer life it will give the car.

Mr. Salesman: You're right, sir; and when you trade it in, I'll be able to get more for the car.



*For distinction, durability and sales appeal nothing takes the place of **GENUINE LEATHER***

THE UPHOLSTERY LEATHER GROUP

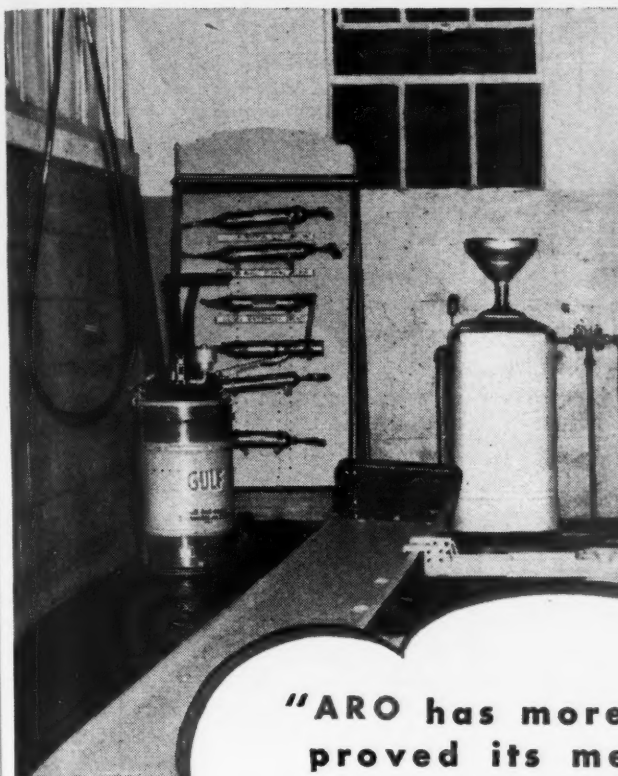
TANNERS' COUNCIL OF AMERICA • 100 GOLD STREET • NEW YORK 38, NEW YORK

American Leather Manufacturing Company, Newark, N. J. • The Ashtabula Hide & Leather Company, Ashtabula, Ohio
 Blanchard Bro. & Lane, Newark, N. J. • Eagle-Ottawa Leather Company, Grand Haven, Michigan • Garden State Tanning Inc., Pine Grove, Pa.
 The Lackawanna Leather Company, Hackettstown, N. J. • Radel Leather Manufacturing Company, Newark, N. J.

15 Year User

STRONGLY RECOMMENDS

ARO *The Leader*



**"ARO has more than
proved its merit,"**

says O. J. Andre, manager of Andre's
Gulf Service, Metairie Ridge, La.

"The ARO Duplex Lubricator shown here has been in continual use since 1936," says Mr. Andre, whose station pumps better than 30,000 gallons of gas per month. "With such service from Aro Equipment, I strongly recommend Aro to anyone interested in good greasing equipment."

For biggest or smallest requirements... see your Aro Jobber.

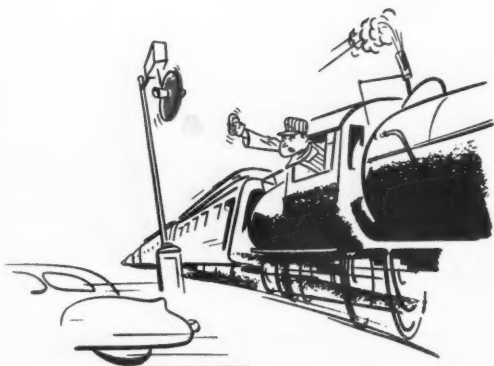
The Aro Equipment Corporation, Bryan, Ohio
Aro Equipment of Canada, Ltd., Toronto, Ont.

ARO

LUBE EQUIPMENT

Also... GREASE FITTINGS... AIR TOOLS... HYDRAULIC
EQUIPMENT... AIRCRAFT PRODUCTS





was my face red

...when Bill Jones just beat the train to the crossing!

"Bill is a cautious driver—isn't in the habit of trying to beat the train to the crossing. But this day he had to! Just after I re-lined his brakes, too! You see, when he saw the wigwag, he slammed on his brakes and nothing happened. Oil on the brake lining! So he gave her the gun and just made it! Naturally that taught me a lesson. From now on it's new oil seals on every re-lining job, just like the brake lining people recommend. My customers realize it's cheap insurance against brake failure."



*Install a new oil seal
whenever you take one out!*

— CAR MANUFACTURERS RECOMMEND IT



NATIONAL MOTOR BEARING CO., INC.

General Offices: Redwood City, Calif.
Plants: Redwood City, Calif.; Van Wert, Ohio

For lube stations

For repair and
brake shops



Support this
industry-wide
program...



**Handy cabinet at no cost
with fast-selling assortment**

Experience shows that it is very difficult to remove an oil seal without damaging it beyond further safe use. Keep an assortment of National Oil Seals handy so you can put in a new seal every time you take one out. National has two assortments available; one contains front wheel seals only and the other both front and rear wheel seals for the most popular cars. Every seal is a fast-selling number. You get the cabinet at no cost when you buy the initial assortment. See your jobber about it now.

Q

Question: Can you double the number of new car customers returning to you for service?

A

Answer: Steel City Oldsmobile Co. DID!

This Birmingham, Alabama Oldsmobile dealer saw its percentage of new car customers returning for service jump from 40 to 80%! The reason? Adoption and use of Alemite's 30,000 Mile Guarantee—an exclusive Alemite "Magnet Plan" feature. So successful has been this plan in attracting more prospects more often, that service work and unit lubrication sales have also showed substantial increases since its adoption.



THE ALEMITE "MAGNET PLAN" will show you how!

Check these...

**Alemite "Magnet-Plan" Services
Only Alemite Gives You All 11—
Fully Tested, Fully Proved!**

1. Counsel and concrete assistance from one of the 300 Alemite Service Promotion Specialists.
2. Powerful Alemite National Advertising—year after year—pre-selling lubrication prospects for you.
3. "Business Expander" follow-up systems.
4. "Prescribed Lubrication" program.
5. Sales-building seasonal campaigns.
6. "Gusher Plan" . . . to build motor oil sales at the service bay.
7. "Sales and Service Security Plan" including the 30,000-mile guarantee for new and used cars and trucks up to 1 ton.
8. Monthly Analysis Sheets, to prove increased service sales.
9. Specialized Lubrication Service.
10. Electronic Wheel Balancing Service.
11. Underbody Coating Service.

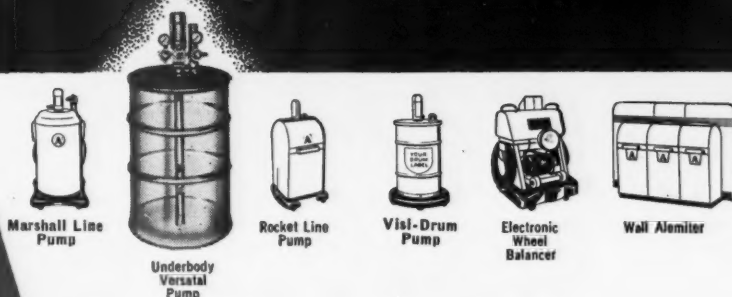
Alemite Equipment for—

• No secret formula, the Alemite "Magnet Plan" employs the good common sales-sense of not stopping with the sale of a \$1.50 grease job . . . but going far beyond it to the sale of profitable parts and service business in every department. Your grease rack is the customer-attracting "Magnet." To give it maximum "pulling power"

Alemite provides you with the ideas and services that will help you build more regular business and produce more repeat business year after year. Find out how well these exclusive Alemite "Magnet Plan" features fit your needs, your operation. Call your Alemite Distributor or write Alemite, 1826 Diversey Pkwy., Chicago 14, Ill.

Powerful Alemite National Advertising

Year after year the industry's largest, hardest-hitting dollar-getting drive! Every month in the Saturday Evening Post, big, effective, color pages drive home the importance of regular, periodic lubrication. This campaign sends good paying prospects in your community in to you for genuine Alemite car care—the finest money can buy.



ALEMITE

REG. U. S. PAT. OFF.

Oldest, Most Reliable Name in Lubrication

Everybody looks up to **Sealed Power Piston Rings**



Sealed Power

MD-50 STEEL OIL RING

the only ring with the Full-Flow Spring

BEST FOR OIL CONTROL EVEN IN

**BADLY TAPERED
and
OUT-OF-ROUND BORES**

Sealed Power CHROME-FACED RING

the best compression ring for

TRIPLE MILEAGE

because its chrome surface

FIGHTS

HEAT, FRICTION, CORROSION, ABRASION



SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST IN NEW CARS! BEST IN OLD CARS!

MOTOR AGE

October • 1951



Hudson's Hollywood . . .

newscene

Hudson Announces Production Of the "Hollywood" Hard-Top

The newest model in the Hudson series follows the popular hard-top body design. Hollywood styling is offered in the Hudson Hornet, Commodore custom and Super Six, custom series. A new two-toned color option is offered on this model and it is also available in a variety of standard and optional colors. All equipment and accessories offered in other Hudson models are available in this model too, including Hydramatic transmission.

Car Factories Get Price Increase from OPS

The new factory wholesale price ceilings which were announced for Chrysler and Ford by the Office of Price Stabilization, are now in effect. The new ceilings were requested under provisions of the Ceiling Price Regulation and reflect increased production costs. OPS officials have pointed

out that their approval was for the factory wholesale increase and that retail prices must be computed for them on the basis of the amendment to CPR-5. New dealer prices can only be applied to automobiles received by dealers after September 15th.

GCPR, SR-5, Amendment 6 is the reference which tells dealers how they can legally adjust their ceiling prices to manufacturer's increases.

NPA Limits Production of Automatic Transmissions

Production of passenger automobiles equipped with automatic transmissions was recently limited by the National Production Authority. The Automobile Industry Advisory Committee unanimously supported the new order as a conservation matter and as a method of adjusting competitive imbalances. This order restricts production to a maximum of 35

percent automatic transmissions in cars with a factory delivered price of \$1,800 or less; 65 percent in cars costing between \$1,800 and \$2,500; and 100 percent in cars more than \$2,500.

British Show in Boston Draws Large Crowds Daily

Thirty new models of British automobiles, representing 16 different makes, were on display at a special British Automobile Show held at Jordan Marsh's department store in Boston, on September 10-16, as part of the British Exposition. Lowest priced car in the show was the "Anglia" by Ford of Dagenham, a four passenger sedan selling in Boston for \$1,065, and the most expensive car on the floor was the Rolls-Royce "Silver Dawn" model priced at \$9,950. Approximately 20,000 people per day visited the exhibit. The new Jaguar Fixed Head Coupe attracted much attention.



At Plymouth's fifth International Model Contest held recently in Detroit, hundreds of midget aircraft buzzed through the skies as the outstanding model plane fliers of the United States and Canada competed. Shown above with his plane poised for flight is Richard E. Moore, 17, of Lemoyne, Pa., and a group of friends also from Pennsylvania. Undisputed champion of them all on basis of total points won was 15-year old Dick A. Modler of Dayton Ohio. One of his entries flew around the circular course at 143.83 MPH.

How to Handle Your Own Social Security Payments

If you work for yourself and are planning to include your own name on the quarterly social security tax return that you file for your employees—don't.

The Social Security Administration says that many self-employed businessmen who were brought under social security as self-employed people by the 1950 amendments are under the impression that they should report their own income in the same way they report the wages paid to their employees. That isn't correct. Self-employed people report their own

net earnings for social security purposes only once a year, with the return due before March 15, at the end of the year when they make their own individual income tax returns.

Your self-employment earnings are covered by the law and must be reported if they are \$400 or more in a year. A form for making the annual report and figuring the tax, which is 2¼%, will be included with your individual income tax forms. The special form, which self-employed people must file for the first time with their income tax returns early in 1952, will be used to give them social security credit for the first \$3,600 of their self-employment income for 1951.

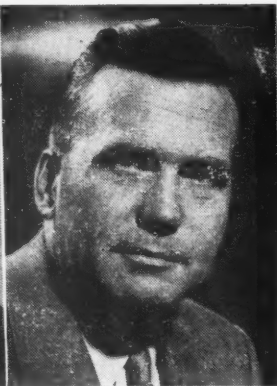
NADA Convention Will Emphasize Service Problems

At the annual convention of the National Automobile Dealers Association to be held January 27-30 in New York City, the importance of passenger cars and commercial vehicles to defense transportation needs will be emphasized in novel clinic discussion groups and by the convention theme: "Automobiles—Essential to America."

William Frame, of Mineola, N. Y., dealer and chairman of the convention committee, explained that the convention will allow U. S. dealers three days together in New York to exchange information on service program.

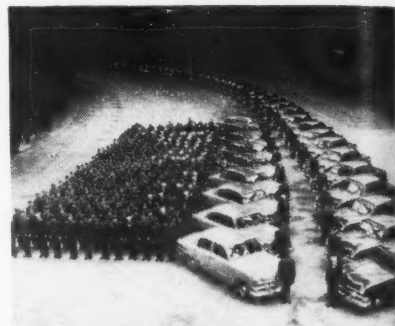
Chrysler Promotions . . .

Chrysler Corporation recently announced three important appointments. Ed C. Quinn (left), formerly General Sales Manager of Dodge Division, is now Vice-President and General Manager of the Chrysler Division. W. C. Newberg (center), former Vice-President of Dodge Division, has become President of Dodge, and Ernest C. Dock (right) has been appointed General Sales Manager of the Dodge Division.



Battle for Most HP Seems Likely Next Year

Next year may see the automobile industry involved in a horsepower battle. Chrysler touched off the race this year with its 180 hp. V-8. It is understood that one of its principal competitors is kicking up the power of its engine to surpass Chrysler. With at least three and possibly four new engines scheduled to appear next year, all of them with more horsepower than their predecessors, the ad writers probably will have a field day.



This is the special transportation unit, composed of 400 enlisted men of the Army, Navy and Air Force who served as chauffeurs for delegates to the signing of the Pacific Pact Treaty in San Francisco. The unit is shown with part of the fleet of 150 sedans that were used by the delegates.

Detroit Report on Model Changes and Plans—All Makes

It is too early to make any positive comments about 1952 models, but plans are pretty well jelled and should go through, barring a national crisis. Chrysler will have very little in the way of body changes and all four lines will be announced by year-end according to present plans. DeSoto will have a new V-8, overhead valve engine, but it is doubtful whether it will be ready by the time of new model announcement. Dodge has an engine of the same type coming along, but tooling difficulties will delay it until sometime next year. General Motors will have very little change in styling and no new engines, although some of the current ones will be stepped up in power. GM's new models will start to appear in December and run over into January. Ford has a completely new body for Ford, Lin-

coln, and Mercury, with two new engines—an overhead valve 6 for Ford, and a large V-8 overhead valve job for Lincoln. Model change time will be January or February. Nash also has a new body line which is scheduled to appear in late February or March. Other independents are planning no great changes and will introduce 1952 models either late this year or very early in 1952. A possible new entry is Willys, which has a new passenger car engineered and practically ready for production. It is possible that it may be announced yet this year. All new model plans, of course, are subject to some change, particularly as to date of introduction.



Gerry E. Lyons, formerly general manager of Willys-Overland Distributors, Inc., New York City, has been named general sales manager for Willys-Overland Motors, Inc., Howard P. Grove, vice-president in charge of sales announced recently.

Chicago Sets Feb. 16-24 As 1952 Auto Show Dates

The 44th annual Chicago Automobile Show will be held during the nine-day period of Feb. 16 to 24, inclusive, next year under sponsorship of the Chicago Automobile Trade Association at International Amphitheater. The decision to hold the show followed a meeting between the CATA directors and heads of dealer line associations in the Chicago area.

Previously, a show committee headed by Frank H. Yarnall, immediate past president of the association, was appointed by James F. Goodwin, president, to



Sailor's Dream . . .

Ex-sailor Dean Meltzer gets all steamed up for a race with the aid of plenty of feminine pulchritude at Culver City, California. After five years of racing midgets, Meltzer still loves the game and as yet he hasn't complained about posing for publicity shots like this one.

study the advisability of holding a 1952 show. The survey, stated Yarnall, was encouraging. The board approved the recommendation to hold a show, and the final verdict was based upon sentiment in the dealer line associations.

Second Mexican Road Race Scheduled for November

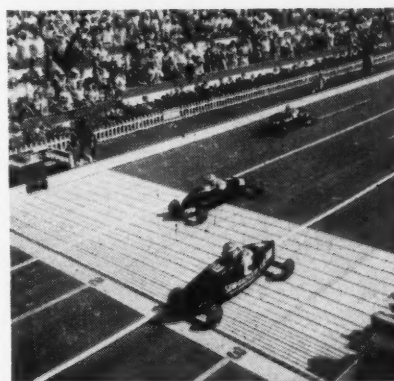
The second Mexican Pan-American Race will be held November 20-25. The course this year will be from Tuxtla Gutierrez to Juarez, just across the river from El Paso, Texas. Following the pattern established last year, the race will be run in eight legs and will be for modified stock cars. Last year's race was won by Hershel McGriff and Ray Elliott in a 1950 Oldsmobile. They averaged 78.21 m.p.h.

Western Dealers Report Imminence of Sellers Market

New car sales in the West will have still another hurdle if, as expected, OPS allows a mark-up on freight this month. Price increases had a marked effect on killing off prospective buyers who had failed to get under the wire of the threatened increases. If the freight mark-up is allowed, it will

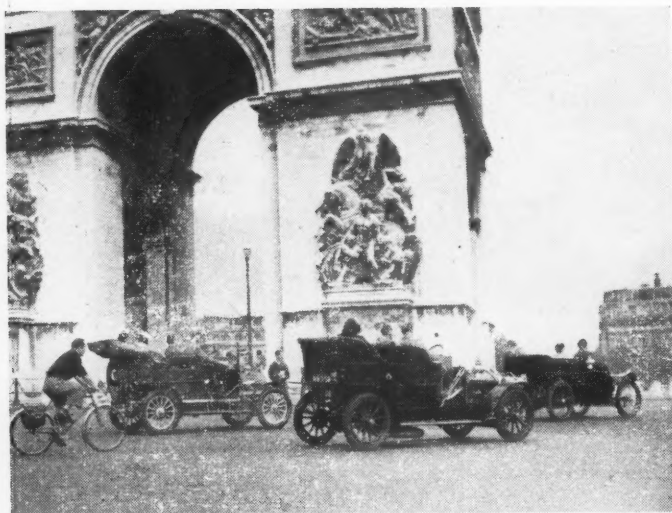
probably price still more prospects out of the field. Westerners are already only too conscious of the freight they pay "west of the Rockies."

Western dealers expect to have to get out and sell their car quotas and generally fail to see any stampede of buyers even in the face of well-publicized reductions in auto production.

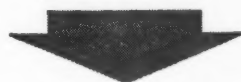
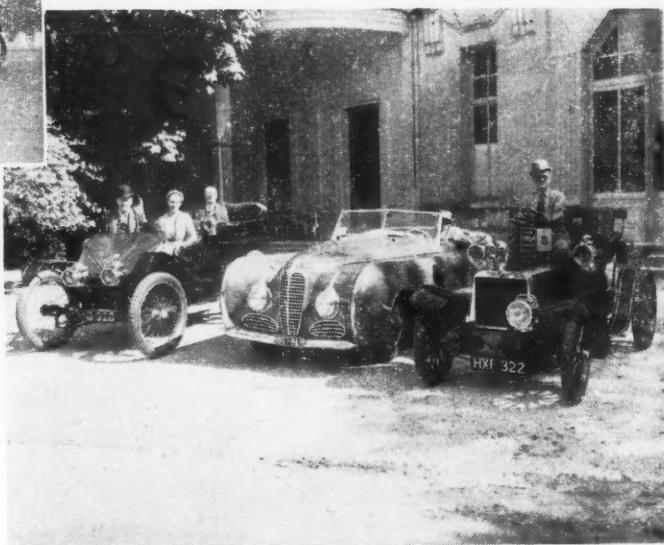


Sixty thousand spectators cheered the three finalists across the finish line in the fourteenth running of the All-American Soap Box Derby, held recently at Toledo, Ohio. Darwin Cooper, 15, of Danville, Pa., winner, was crowned All-American champion. A short distance behind him was Raymond L. Marconi, Gary, Indiana and in third place was Paul Albright, Jefferson City, Missouri. Cooper won a \$5,000 scholarship and Marconi a Chevrolet sedan.

—newscene—



When the Veteran Car Club of England recently held a parade and Concours D'Elegance in Paris, twenty cars from their French counterpart, the "Teuf-Teuf" Club went along for the ride. "Teuf-teuf" is how a bulb horn speaks in French.) After filing past the Arc de Triomphe the cavalcade proceeded to a gymkhana at the Jardin d'Acclimation. Shown in the parking space are a 1904 Lanchester, a 1951 Delahaye and a 1904 Darracq. Visibility was fine in the surrey with the fringe on top but H. Stradling in his 1913 Unic had all-weather protection plus lace curtains on his windows



... Report to Our Readers



A Serious Charge

A SPOKESMAN for the United States Department of Labor took a dim view on the workmanship of the automotive repair shops and service departments when he charged that a lack of automobile mechanical training programs is responsible for the bad mechanical shape of millions of cars; and further that poor workmanship is causing many motorists to lose their lives.

These are serious charges and should be seriously considered.

Apprentice training has always been a great undertaking in this field. We have trade and vocational schools, but more important, car factories and automotive parts and equipment manufacturers have extensive programs to develop expert mechanics.

Therefore, we disagree with Mr. W. F. Patterson, director of the U. S. Department of Labor's Bureau of Apprenticeship.

"Apprenticeship in auto repair services is in a serious condition," Mr. Patterson says. "Two out of every three apprentices who begin training as auto repairmen fail to complete their training."

We do not know where Mr. Patterson got his figures, but undoubtedly they are sound and accurate. If he means that two out of three apprentices quit to enter another field—that is one thing. But we submit that three out of three remaining apprentices get a pretty thorough training under working conditions.

We do not agree with Mr. Pat-

terson but it is far more important that every repair man and service manager realize that spokesmen for our own Government are now charging that (to quote Mr. Patterson) lack of apprentice training is "a major reason that millions of cars on our highways are not mechanically safe and mechanical failure is one reason that we have killed more persons on our highways than have died in all the wars in which the United States has engaged."

Last year, 23,000 of the na-

tion's 35,000 traffic deaths were caused by four types of violations—speeding, drinking and driving, driving on the wrong side of the road, and failure to give right of way at intersections to pedestrians or other vehicles.

Authorities tell us that less than 12 per cent of fatal accidents are traceable to mechanical failure of the vehicles involved. It's down around 4 per cent in Pennsylvania where Safety Inspection laws are intelligently and effectively enforced. Blame apprentice mechanics? 'Taint so, Mr. Patterson.

Let's get in the scrap—with both fists

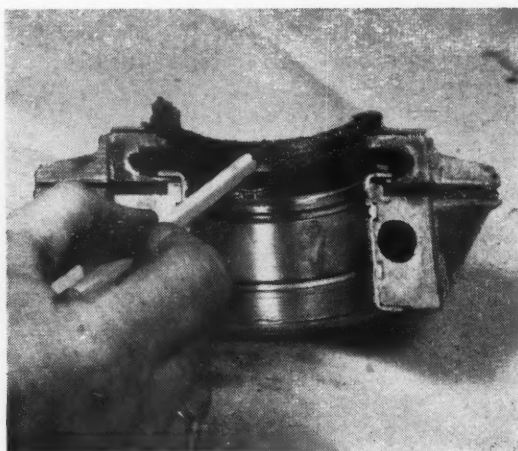
THE scrap you collect today may provide the parts you'll need next year. The dilapidated junker . . . the broken down, obsolete equipment . . . the heap of scrap metal and junked parts are urgently needed in the National Production Authority's drive to supply scrap for the fiery jaws of the nation's expanding steel production program. General Motors collected 19,000,000 pounds of non-production metal in a 10 weeks continuing search of its plants. Car dealers, service dealers and auto wreckers could easily match that, for 10,000 jalopies would yield an equivalent amount of the "precious" metal. (And, we can spare 'em.) Scrap mobilization committees in more than 100 cities are already organized as part of the NPA program. Scrap needs are 6.5 million tons greater than last year. Let's get in the scrap with a two-fisted answer to Communist double-talkers.

Frank P. Tighe

Editor



↑ One of the most frequent causes of blowby is worn top ring grooves. Examine the ring groove width and if excessive, install a larger ring or add a spacer.



Always replace the rear main bearing oil seals to prevent leaks at this point ↑

by John K. Montgomery
Technical Editor

My Ring Job Notebook

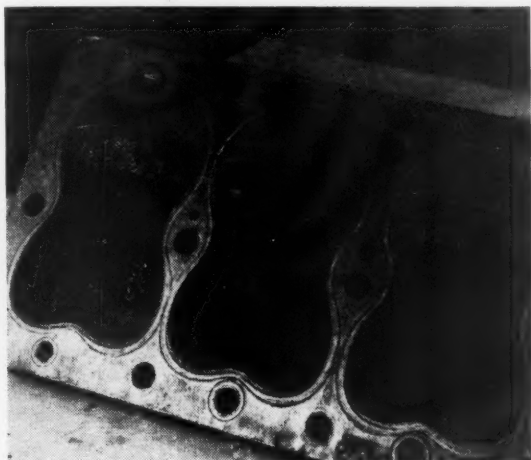
The following checks should be a must on every ring job. Remember that rings alone

WHEN a customer drives into your shop and says his car is using an excessive amount of oil, you immediately think he needs a ring job, and in most cases he does. But every so often the car still uses oil after the ring job.

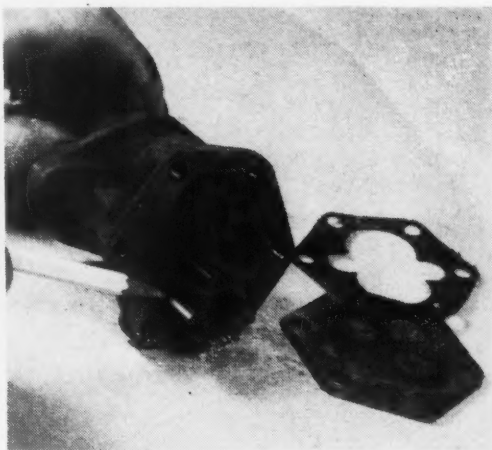
It would be well to remember then, that the

rings alone are not a cure for all oil eaters. The following checks should be a must on every ring job.

Check for oil leaks before disassembling the engine. Check the vacuum pump for sucking oil if the engine is so equipped. Then after the engine is disassembled, check the pistons for

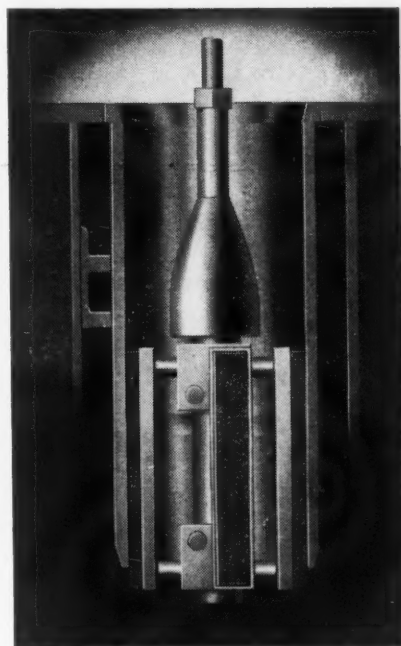


Check all cylinder heads for wear at gasket seat. A head in the above condition \nearrow will cause gasket failure.



Oil pump gears should be examined for wear, also the oil pump cover. \nearrow If wear is noticeable, low oil pressure will result.

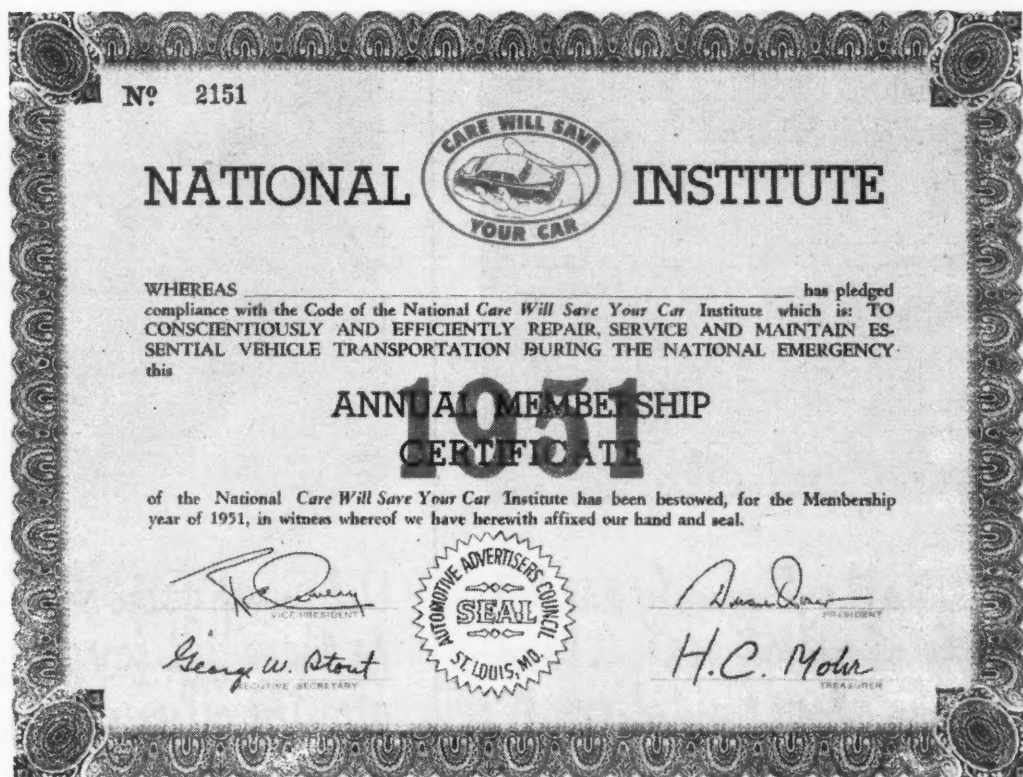
Use a hone in cylinders to break the glaze. \rightarrow This will insure quick seating of rings.



are not a lasting cure for all oil eaters.

size and expand if necessary. Check the cylinder bore taper, the ring grooves for wear, the connecting rod bearing and main bearing clearance, the breather system for being clogged, and the rear main bearing and the timing case and also the valve cover seals for leaks.

(Continued on page 74)



This certificate, suitable for hanging on your wall, is given to you with your \$1 membership in the National Care Will Save Your Car Institute.

by Frank P. Tighe

There's Punch Behind It!

Wide spread consumer magazine publicity on a well-planned car maintenance campaign

THIS month marks the beginning of the second year of the serviceman's sales promotion campaign—*Care Will Save Your Car*. The rookie year was a successful one and those of the service trade who used it to the fullest benefited by it extensively.

Not enough, in our opinion, took advantage of the values that the program had to offer—especially taking part in the national "Care Will Save

Your Car" Institute whose code is: "To conscientiously and efficiently repair, maintain and service the nation's vehicles during the national emergency."

Perhaps there are some things you haven't heard about this campaign. Here's what we mean:

Did you know that the program is just as new and vibrant and essential today as it was a year

Don't Let Winter Catch You in the "ZERO HOUR"



You can back on it! The first cold day will start a rash on the service stations.

Everybody and his brother will be lining up, three deep, for anti-freeze, winter oil, a cold-weather grease job, a pre-winter check-up, chains.

Service men will be busy as hot dogs. And remember, the best and fastest mechanic has only two hands. With the best will in the world, he can't give your car the painstaking

attention it deserves, when it is possible for you.

So, why wait for that first cold day? Why get caught in that "Zero Hour Line-Up?"

See your serviceman now. Allow him time to give you the thorough, systematic car-inspection that you want—and he wants to give you—the kind of inspection that will protect your car and you from winter driving hazards.

Leading automotive engineers join COLLIER'S and your car's manufacturer in reminding you that care will save your car—and that it is better to have your car checked a week too early than a day too late.

Care will save your car



**A Good Inspection is Your Protection
against Winter Driving Hazards**

Your serviceman can quickly check, adjust and correct those trouble spots which, if neglected, may result in the repair bills. Here are some of the things that a thorough inspection and check-up can protect you from this winter.

SKIDDING caused by badly adjusted brakes, worn brake linings, worn tires, struts out of alignment, or lack of chains.

POOR VISION due to cracked or faded windshield, dirty or cracked lenses, bad wipers, defective headlights, fog and turn signals and bad glass.

Five weeks

Here are some of the big circulation consumer magazines who are helping you to promote the "Care Will Save Your Car" Program. Their readers are your customers.



adds new incentive for service dealers

ago? Perhaps even more so?

Did you know that the Care Will Save Your Car story is being told to car owners by the millions? And at no cost to you?

Costs a Dollar

Did you know that you can enroll in the "Care Will Save Your Car" Institute for *only a dollar*?

(Continued on page 110)

Collier's

15c

March 21, 1951

"KEEP 'EM ROLLING"

SALUTES



Farm Journal

MAY 1951 • 25 CENTS

KEY LINE ADVERTISING DIRECTORY

AUTOMOTIVE SERVICE INDUSTRY PRODUCTS FEATURED IN

POPULAR SCIENCE

MECHANICS AND HANDICRAFT

25¢ September, 1951

The Story of Doc Jones and his Car

by BILL PARKER



"I Don't Know Anything About Selling Automobiles"

A lesson in selecting and training men,
from an old master, God rest his soul

This is a digest of an address by Knute Rockne to the Studebaker Sales Organization at the Detroit-Leland Hotel on January 20, 1931. Reprints are available.

I DON'T know anything about selling automobiles, I never sold one in my life, but perhaps a few remarks on the psychology that is necessary for success in a football organization might not be out of place, because it seems to me that the same psychology that makes for success in a football organization will make for success in any organization, particularly in a selling organization.

Now, in the fall when we make our first call for the team, for the lads to come out, about 350 of them assemble, and it is my idea to talk to them on the correct psychology before I take them out on the field. I talk to them on ambition and I tell them that most of that which I read about ambition is bunk. There is not plenty of

room at the top. There is very little room at the top. There is room at the top only for the few who have the ability and the imagination and the daring and the personality and the energy that makes them stand out from among their fellow-men. But there is success for any man in his own job if he does as well as it can be done. As far as I am able to observe, the greatest satisfaction I can get on this earth is to do the particular job I am doing as well as it can be done, and I think that holds good for anyone. There may be other things that are easier, but they generally leave a headache or a heartache the day after.

I tell the lads there are five types that I do not want. And I say the first type I have in mind



Knute Rockne

is the swelled head. The man who was a success a year ago and who is content to rest on his laurels, who wants to play on his reputation. Dry rot sets in and he ceases to make an effort.

The second type is the chronic complainer. They crab at everyone but themselves. And I say no organization can afford to have that type of man among them because it is infectious. And I say he is in for quite a shock, too, because as soon as I find out who they are, why, some evening when they come out for practice there will be no suit in his locker.

And third is the quitter. The quitter is the fellow who wishes he could play, but who is not willing to pay the price, and I tell the boys if any of that type is here he might just as well

quit now and not wear out the equipment.

I don't want boys to dissipate physically or emotionally. I tell them that I have no grief against playing pool long hours in the afternoon, dancing half the night, or learning to drive an automobile with one hand, but I tell them that we have no time for it. If we are going to compete with organizations who do not do that sort of thing and who are saving all their energy for the contest, I say, do not dissipate any energy emotionally; and by that I mean that they should not give way to emotions such as jealousy, hatred or anything of that sort. I say that this sort of thing destroys any organization, and then I tell them that we should look upon one another in a friendly way. Look for the good in one another and be inspired by the fine qualities in those around us and forget about their faults.

There is another type of man who suffers from an inferiority complex. He generally comes from a small community and he says to himself, "What chances have I got to get on the first string of 33 men here when there are 350 boys trying out for it. I don't believe I've got a chance and I don't believe I

can make it." If there are any among you who feel that way, forget about it and get a superiority complex. I say to them, "You are just as good as any man out here. And by getting a superiority complex you can show the coach you belong at the top of the 33 men where you think you would like to be."

In two weeks I call them together again and I tell them that there are certain among them that have great potentialities, but that they have not shown any improvement. There are certain among them that I do not want unless they change.

The first is the chap who alibis, one who justifies his own failure, and I tell them that a

(Continued on page 130)

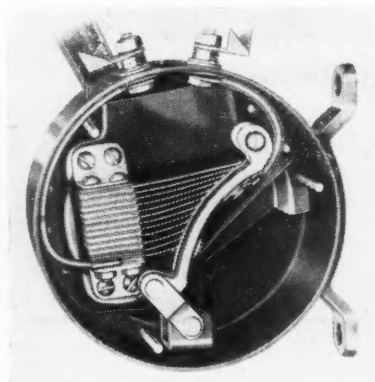
Servicing Warner Electric Brakes

The current widespread popularity of house trailers makes the information in this article especially valuable to repair shops . . . by Jack Montgomery, Technical Editor

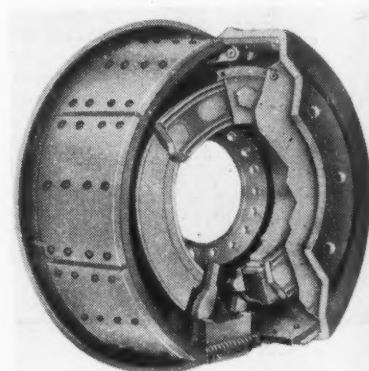
THE Warner Electrical Brake consists fundamentally of a backing plate, magnet, armature, brake band, cams and brake drum. The magnet is mounted on the backing plate; the armature is bolted to the brake drum which revolves with the wheel; the controllers (Figs. 1 and 3) permit the driver to apply any degree of braking power. As the lever is moved, the electric current flows through the magnet, the current energizes the magnet and causes it to cling to the armature.

On the larger brakes, a lug is attached to the magnet. When the magnet moves, the lug on the magnet presses the cam lever against the band end. On 12 inch and 14 inch brakes the magnet lug presses directly against the band end, thus forcing the band end into the revolving drum. After the band end has been forced against the revolving drum, the brake band is again free to float on its supports and will follow the drum

(Continued on page 92)

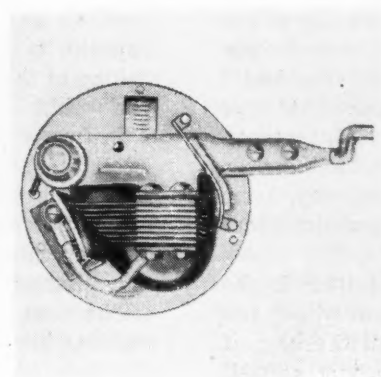


1. Controller used for applying current to the brake shoes.

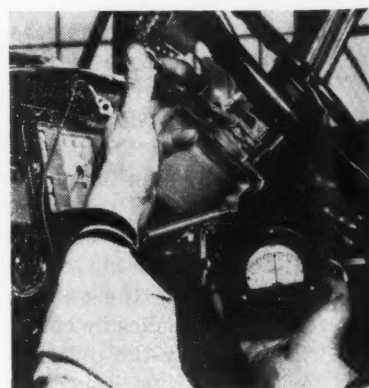


2. Internal view showing the brake shoes and the magnet.

3. Another type of controller used for applying brake power.



4. Checking the current at the controller unit.



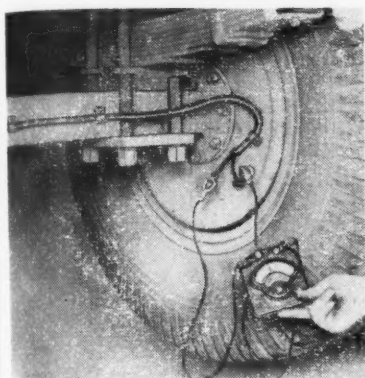
AMPERAGE CHART

The amperage readings listed are 90 per cent of maximum and should be adhered to as given because of ICC rules.

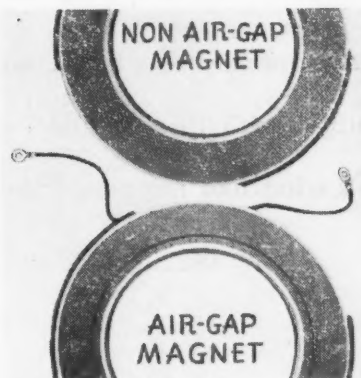
BRAKE SIZE	EACH BRAKE		AT CONTROLLER 2 BRAKES	
	MIN.	MAX.	MIN.	MAX.
12 x 13/4	2.7	4.0	5.4	8.0
14 x 2	3.5	3.8	7.0	7.6
16 x 2 1/2	3.5	3.8	7.0	7.6
17 1/4 x 3	3.1	3.4	6.2	6.8
17 1/4 x 4	3.1	3.4	6.2	6.8

BRAKE SIZE	EACH BRAKE		AT CONTROLLER 2 BRAKES	
	MIN.	MAX.	MIN.	MAX.
17 1/4 x 5	3.8	4.2	7.6	8.4
16 1/2 x 5	3.5	3.8	7.0	7.6
16 1/2 x 6	3.5	3.8	7.0	7.6
16 1/2 x 7	3.5	3.8	7.0	7.6

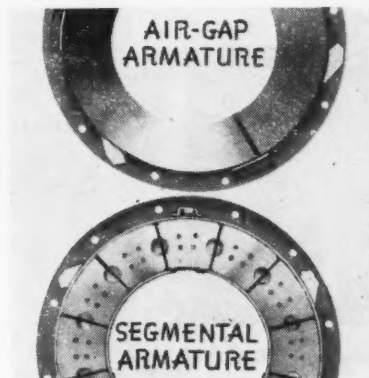
All readings in amperes



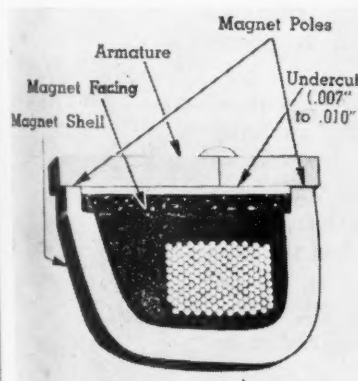
5. Using an ammeter to check the current at the wheels.



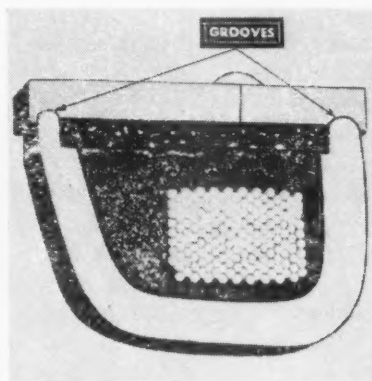
6. The magnets should be used in pairs as shown.



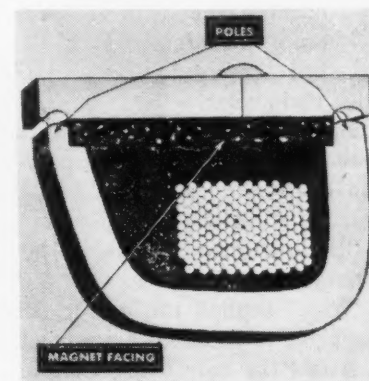
7. The air-gap armature and segmental armature in pairs.



8. View of the magnet when new. Note the armature condition.



9. Notice the grooves in the armature after long service.

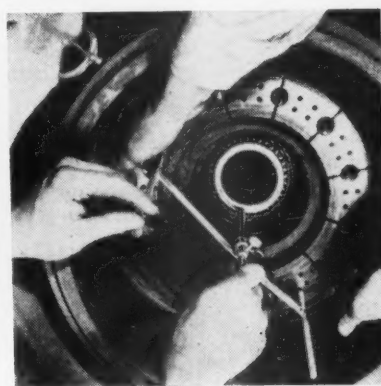


10. Badly worn magnet poles. These will not make a circuit.

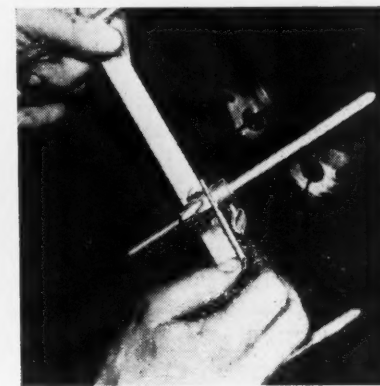
11. Using a special gage to check the armature condition.



12. Install a tool as shown to check armature depth.



13. Using a "Go and No-Go" gage to check the armature depression.



Pop Loses a Bet



Pop O'Neill

There was five bucks in it for Tommy if he could find the trouble with this Cadillac, and literally before he knew what had happened the money was his

by Charles M. Kenyon, Managing Editor

POP O'Neill paused for a moment before opening the door to his repair shop. The crisp morning air of late October had splashed the maple trees on Glenrock's streets with vivid color.

But before Pop had time to admire the scene, a 1950 Cadillac convertible pulled up in front of the door. Pop smiled and walked over to the driver's window.

"Hello Doctor Kronfeld," he said. "Quite a stranger."

"Yes," replied the doctor, shaking hands. "I don't get to Glenrock very much these days, and it seems the only thing that brings me here is trouble."

"Not too serious, I hope," said Pop, glancing at the well kept car.

"It seems to be," said Doctor Kronfeld. "I have already had the car to two garages but neither one seemed to be able to fix it."

"We'll do our best," said Pop. "And I rather think," he added with a twinkle in his friendly eyes, "that we will fix it."

"I think so too," said Doctor Kronfeld, "that's why I stopped in. I must spend the day over at Memorial Hospital. Could you drop me off over there, then keep the car for today? I can pick it up sometime late this afternoon."

"Sure," said Pop, "Be glad to." He put the key back in his pocket and climbed in beside the doctor. "It'll give me a chance to see how the car performs on the road at the same time."

The doctor started the engine and immediately Pop frowned. "That engine vibration is pretty bad, isn't it?" he said.

"Yes," said Doctor Kronfeld, "but we can't seem to find out what causes it."

The rest of the drive was spent in a haze of reminiscences, harking back to the days when the now famous surgeon had been an interne in the local hospital. When Pop returned to the repair shop he found Tommy Winters had already unlocked the shop and was setting the displays outside. Pop waved, then lifted the hood on the Cadillac.

Almost immediately he straightened up, a smile of satisfaction on his round full face. He looked at young Tommy Winters then chuckled to himself.

"Say, Tommy," he called, "come over here a minute." And the apprentice trotted over.

"Morning Pop," he grinned, "can I help you out there?"

"Sure," said Pop, "I think you can. Might take a little time, but I believe you can get it. This car has stumped two good garages in the city, and Doctor Kronfeld has left it with us to straighten out . . . a case of engine vibration



"You bet," said Larry sticking out his chest. "You don't never see Pop offering me a fin to do an easy job like that. I'm a real mechanic."

but no one really seems to know the cause."

"Engine vibration can't be too tough," said Tommy very seriously. "Why I think I could find that, too."

"Well, boy," said Pop, "don't forget that two mechanics before you thought they could find it, too. Just to make it interesting I'll offer a

small bonus of five dollars to you if you can fix it before noon."

"Put the five in a special pocket," said Tommy. "It's mine already."

He finished the early morning chores then came over to the Cadillac. He hopped in and
(Continued on page 116)

by Arthur H. Nellen, Jr.
Service Editor

How to Inventory

Looking over a customer's car to see what it needs for winter is the best way to

THERE is no sure-fire formula for selling parts, accessories and service to a car owner. But one rule which can be followed to save time and to make more sales is: determine what the customer needs for his car, and concentrate on selling those needs.

By concentrating on these points the salesman will save wear and tear on his customer and on himself. The customer, of course, is more receptive to a sales approach on things which he knows he needs, and will seldom be receptive to something which is "on special" if he has no use for it.

Taking inventory of the customer's car is especially important when the man comes in for his winter servicing. While the anti-freeze is being checked the oil, rear, and transmission lubricant changed, the salesman has a chance to look for what other items the car should have before cold weather driving. Naturally, tires are an easy sale when slippery driving weather approaches. However, just because the shop is running a sale on a particular tire, not every customer can be approached on it. There are various tires to suit different motorists' needs. For instance, if his present tires are in good condition, he may be interested in a new set of snow tires for use each winter. A shop can render a service whereby the regular tires are stored throughout the winter season and then replaced on the rear wheels in the spring, at which time the snow tires are stored. This may appeal to a driver who does not like to bother with chains. If a car has two or more bald tires, the owner may be more interested in a dual purpose tire which has a snow tread built on top of the conventional tire tread.

The products and services shown at the right are especially important sales items at this time of the year.



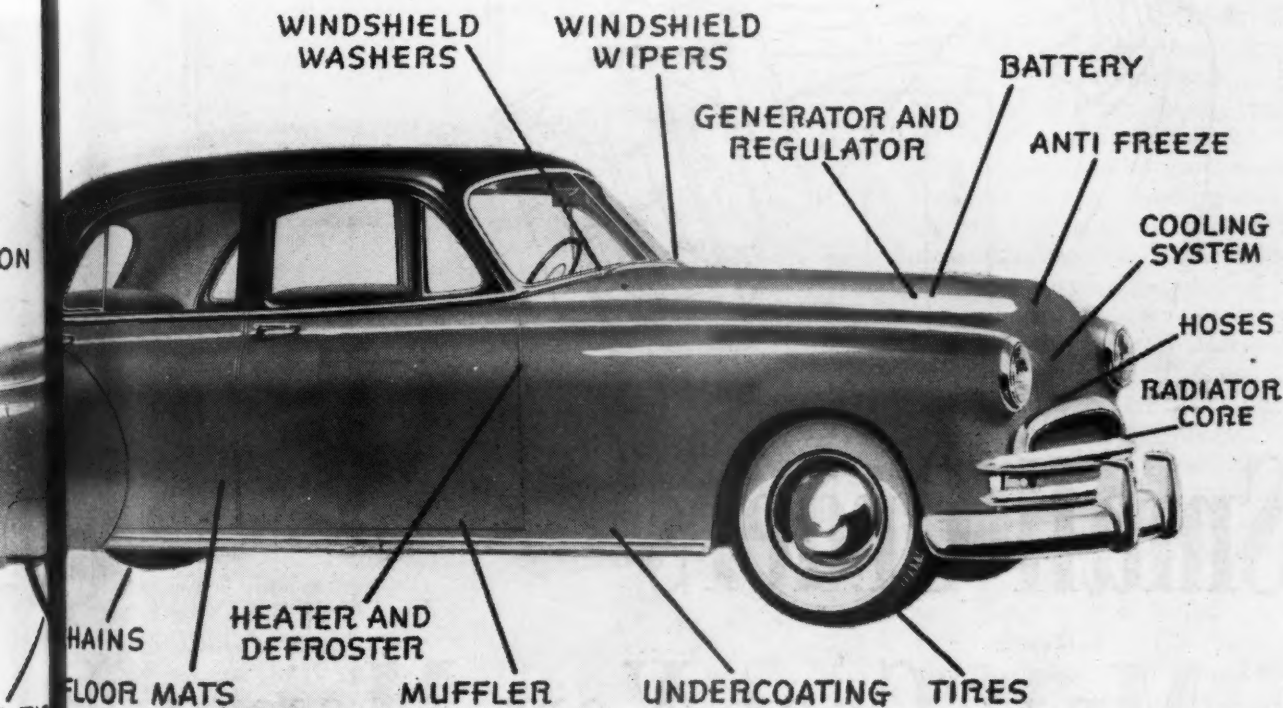
Through the cold weather months the tires have the snow tread but as spring approaches, the knobs wear down to the standard tread which is full depth. Thus he now has the equivalent to a new set of tires and also has had the use of these snow treads through the winter. Other customers may prefer to use re-cap

Winter Needs

determine what can most easily be sold

These winter accessories go hand-in-hand with winter service

Skid chains	\$8.00 to \$12.00
Snow tires	\$20.00 to \$35.00
Snow recaps	\$8.00 to \$20.00
"Throw" floor mats....	\$.75 to \$2.00
Heater & defroster..	\$20.00 to \$40.00
Windshield washers	\$6.50 to \$8.00
Undercoating	\$35.00 to \$40.00
Finish protection	\$5.00 to \$15.00



snow treads for the winter and then to purchase a new set of regular tires for the spring.

The important point is to analyze the customer's needs before trying to sell a product. For the man who prefers chains there are several new developments in this field and his serviceman should advise him of these. Skid

chains are made to last longer and grip better than ever. Special pieces are welded to the cross links on some makes to contact the pavement. These dig in to provide better traction on ice and snow. Another make has rollers which permit the cross links to revolve, wear-

(Continued on page 86)



Small Orders May Cost You Money

The case studies detailed here offer dependable yardsticks to guide the reader

SMALL orders have long been an obvious cause of high distribution costs and unprofitable sales in all fields where goods are channeled from the manufacturer to the jobber to the retailer. Businessmen (including those in the automotive service industry) have been troubled with the small order problem for years, but they have done little about it on the assumption that it is a factor in distribution over which they have no control, something akin to a loss on inventory value when the market drops, just one of those things that can't be helped.

Make a functional costing table like this, but list all your own operations, to aid you in determining the cost of the function. Then divide by the number of units handled to get your unit cost.

FUNCTIONAL COSTING TABLE			
Functions	Function cost	Number of units	Unit cost
Order taking			
Personal calls			
Phone solicitation			
Handling mail-orders			
<u>Order handling</u>			
Entering orders			
Selecting stock			
Assembling stock			
Storage			
Boxing and packing			
<u>Delivery</u>			
Loading on carriers			
Routing orders			
Traffic routine			
Freight			
Express			
Truck			
<u>Bookkeeping</u>			
Extending credit			
Invoicing			
Posting charges			
Monthly statements			
Calculating payroll			
Sales analysis			
Collection expense			
Bad debts			
<u>Financing</u>			
(a) Carrying accounts			
(b) Bad debt losses			
General Overhead			
Total-----\$-			\$

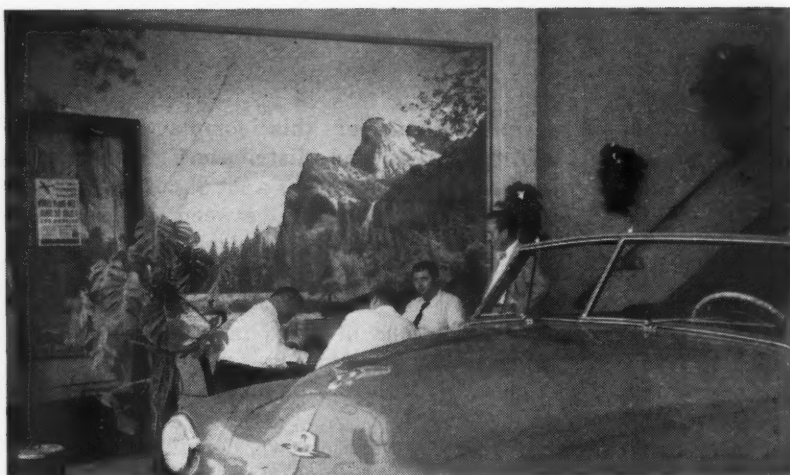
One reason for this complacency among manufacturers and distributors is that they lacked the facts. It takes a lot of costing routine to find the dividing line between the profit and unprofitable order. It requires the breakdown of order-handling procedures into functions, the costing of each function, then the totaling of all functions involved in order-handling to get the cost of handling per order. If selling expense is involved, this must also be computed per order.

In the past year or two, certain distributors have been grappling with the problem and they have compiled some startling figures on the cost of small orders. The main factor that motivated these studies was the increased cost of paperwork and selling expense connected with the distribution of goods. Like factory workers, the compensation paid bookkeepers, stock clerks, truck drivers and salesmen had gone up tremendously in the past decade. Hence, the cost of handling or selling the individual order had increased tremendously. The results of these surveys astounded the researchers and, after correctives were applied, costs decreased, profits increased. Whether the items distributed are spark plugs, hammers or grinding wheels, the distribution problem and its solution follow an identical pattern.

In one case study, most of the orders received from 57.5 per cent of the customers, comprising 2.7 per cent of the dollar sales, were unprofitable. The unprofitable business was dropped and sales effort concentrated on the remaining profitable volume. Salesmen were relieved of 50 per cent of calls formerly made, enabling them to increase volume on profitable orders, earn more money and reduce traveling expense. This research disclosed that 97.3 per cent of dollar sales was drawn from 42.6 per cent of customers, the 2.7 per cent dollar sales received from 57.5 per cent of cus-

(Continued on page 102)

in making similar investigations of his own



Sales-manager Bob Oliver (seated at the right) with his assistant, Fred Froster (standing) witness the signing of a "Farmer's Plan" contract.

Below. Showroom of Esquire Motors in Los Angeles, Calif.



The Farmer's Twist

An unusual type of time-payment has been developed by a dealer for the customer who has seasonal fluctuations in his earnings

LOS ANGELES' metropolitan new car prospects whose incomes may experience *highs* and *lows* during the year are those most favored by Esquire Motors' "Farmer's Payment Plan."

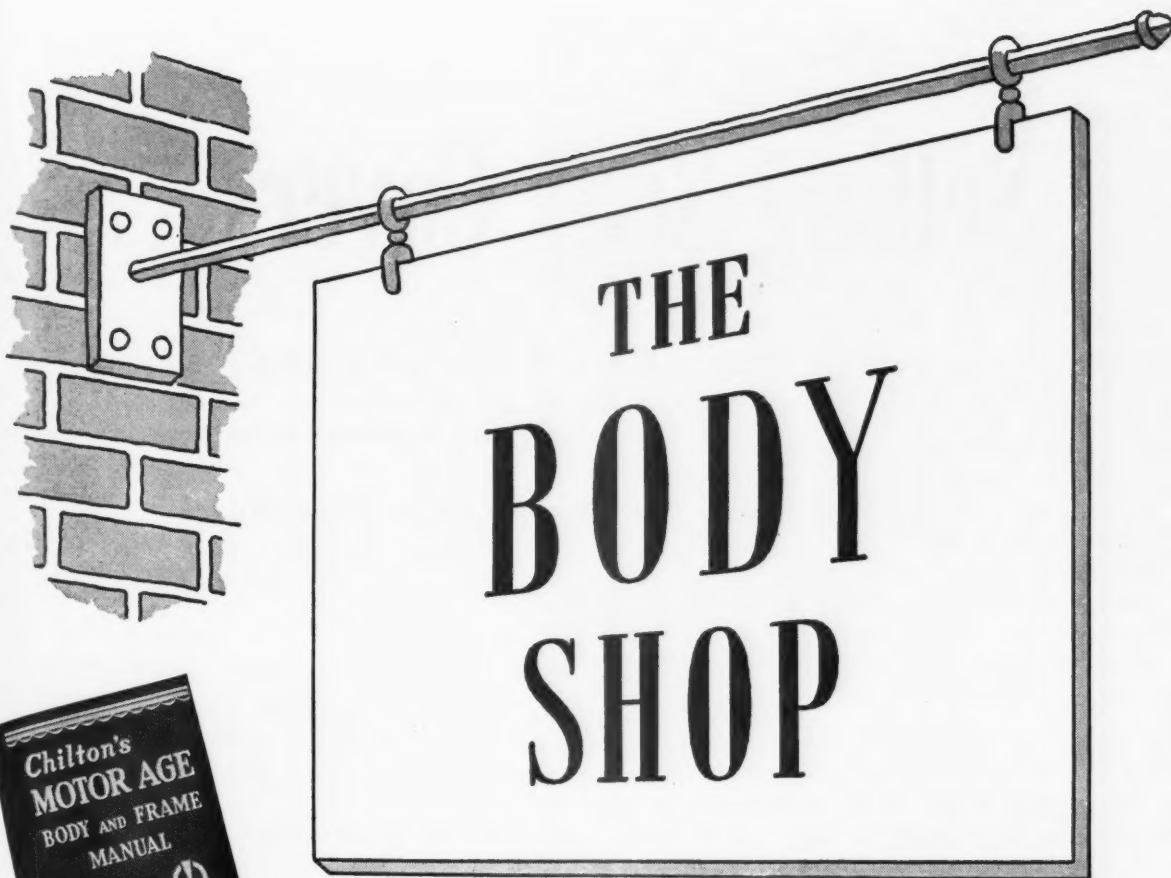
The character of the credit plan is in line with the agricultural worker's habit of paying off his

debts when his crops come in. Within the regulated credit framework, it pushes for a trade-in of the prospect's old car, or a one-third down payment, then advances to a first collection of accumulated monthly amounts at a high income period in the buyer's earnings.

The customer can choose to make his first additional payment at the end of 3 months, 6 months, 9 months, or a year. A continuation of the plan to distribute or divide the balance is a possible arrangement between the Chrysler-Plymouth dealer and the customer.

"Undue risks to us," Bob Oliver, sales manager, says, "are eliminated in the qualifications of each prospect. In order to qualify in the program, the buyer must have been engaged in the same job or profession for the last five years; or he must own his own home or be in the process of buying one; or, he must have preferred credit."

"We have spent \$30 to advertise on our window glass. Our hope is to get everyone talking. We are reaching prospects with direct-mail penny postcards. These are businessmen, executives, doctors, commission salesmen, and so forth, who are potentially in line for lump sums of cash during the year."



Other helpful information
of this type is available
in Chilton's Motor Age
Body and Frame Manual

Important Ideas, Methods and Know How to Help Modernize Your Body Business



Simple Tool Speeds Door Cap Alignment

Most G.M. cars from '42 through '48 have a front fender extension (or door cap). In adjusting these caps to fit the fender line we have found the following method to be successful.

Take a four inch by $\frac{1}{2}$ inch by $\frac{3}{32}$ or $\frac{1}{8}$ inch piece of strap iron and bend as shown. Open the door to be adjusted and insert one hook over the door cap and the other over the back edge of the fender. Pull the door farther open gently and then release. Change the position of the tool up or down, depending on where it needs adjustment. The curved ends of the tool should be wrapped with tape or cloth to prevent scratching the finish. *Don Simpson, 115 East 16th Street, Grand Island, Nebraska.*

Motor Age will pay \$10.00 for the best Body Shop Kink each month. Others will be bought at the regular rates.

Selling Seat Covers

EFFICIENT plant layout and facilities, planned work and procedure, mass buying of materials, and hard-hitting advertising combine to make a successful, growing operation for Auto Seat Cover Co., Erie, Pa.

It was begun about four years ago, has experienced steady growth, and today functions in a new plant of nearly 8500 square feet, with a storage lot of equal size.

"Tailoring auto seat covers to an individual's automobile is our big business," stated Joe Fainstein, owner. "This kind of business is founded on the fact that people today are more conscious of car appearance than ever before."

Fainstein itemized several factors that management of this kind of business must take into consideration: a working knowledge of factory changes in cars, and in different models, to keep pace with seat cover requirements.

Manufacturing skill and knowledge of dif-

In Erie, Pa. a shop makes money

by making and installing custom

fit auto seat covers in quantity

ferent types of materials—plastics, pseudo leather, cloth—that can be made into seat covers, their potentialities, wearing abilities and so forth.

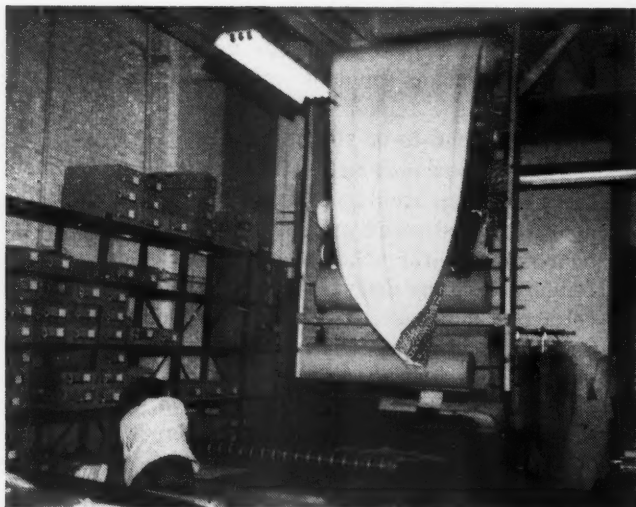
Beyond these factors, there must be experience in upholstering itself and, of course, in the seat covering business.

There are three fundamental divisions to the work at this plant: measurement or layout; cutting of materials and sewing together; finally, fitting onto the auto seats and backs.

"When a new model of any car, Buick or

Large cutting tables permit laying out of wide expanses of material for cutting from patterns. Notice the rolls of various fabrics.

A seat cover is only as strong as its seams, and the product is made to last in this shop. Experienced operators work on commercial machines.



by Walter Rudolph

Ford let's say, is first brought into our plant, we use it to take a pattern from that will be used on all other cars of that make and model from then on," explained Fainstein. "Future customers for that particular make and model can order covers made up, which we call 'custom tailored' seat covers, or they can leave the car for an exact tailoring."

The latter work takes into consideration usage the car will undergo (convertibles should have longer-wearing materials; salesmen, slipping in and out, require durable driver's seat covering; children in the family—material that cleans easily) and even fits for the heavier person who might depress springs and upholstering more than the average-weight person.

(Continued on page 84)

Fitting is important. The covers are custom made to fit each car, and the employees are specialists in this work, so a tight fit should result.



Patterns for each make and model of car are "filed" on racks like the one shown above. As a new car comes out, its pattern is made.

BODY SHOP

continued on

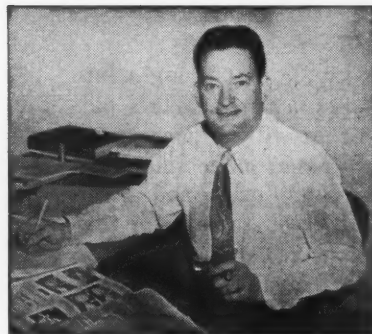
Page 72

A profitable side line is the installation of convertible tops. This work is done in a special department at Auto Seat Cover Co.



READERS CLEARING HOUSE

Trouble Shooting Problems Solved



by Jack Montgomery, Technical Editor

This Packard Lacks Power And Has Low Vacuum

We have a 1951, Series 200 Packard, on which we have been unable to get more than 12 inches of vacuum reading at idling speed. The car is very sluggish and has top speed by speedometer of 85 mph. with no power or pick-up.

What We Did:

The valves have been ground. It has compression of 120 lbs. average. The distributor has been overhauled, its manual and vacuum advance curve are within proper limits. Its dwell and point openings are as specified. We have checked the valve timing by marks, as well as piston travel. Two different carburetors have been placed on this car, and one was overhauled. The intake manifold has been thoroughly checked for air holes as well as proper fit to the block. This car has 11,000 miles on it and has had this condition existing since date of sale. Submitted by: Roy Coverston Coverston Buick Company, Fallon, Nevada.

We Suggest:

From what you have checked and done there is very little I can add except that I would suggest

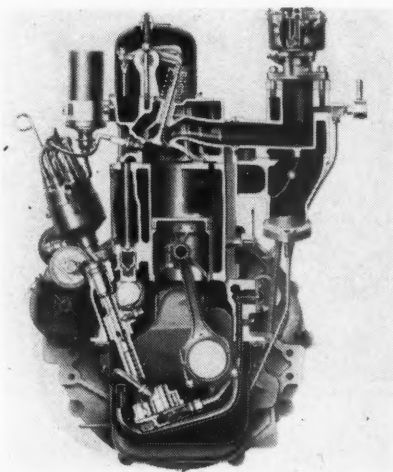
checking the muffler and making sure that it isn't obstructed. Also check the heat damper valve on the exhaust, and make sure that it is working properly. You might have a leak in the vacuum advance on the distributor causing the low vacuum.

Chevrolet Has a Knock After Engine Overhaul

We have a 1941 Chevrolet that has a knock which sounds like a piston slap. It knocks on acceleration from low speed up to 50 miles per hour.

What We Did:

We installed a set of pistons and rings, tightened the bearings and



ground the valves. Since then we have installed a new timing gear, re-checked the piston clearance, re-checked the mains and rods, adjusted the rocker arms and checked for bent push rods. Still the knock remains. Submitted by: Peter Rus, Rus Auto Service, 411 Franklin St., Pella, Iowa.

We Suggest:

Try shorting this knock that is putting a load on the engine and short one spark plug at a time to see if the noise disappears. If it does, make a note of the cylinder and it either is due to a loose wrist pin, or a loose piston or probably a bent rod. It might be a loose piston pin. Sometimes on these Chevrolets the metallic knock is heard but the cause is vibration of the accelerator push rod. This noise, however, is a high pitched clicking noise, more or less of the ringing type.

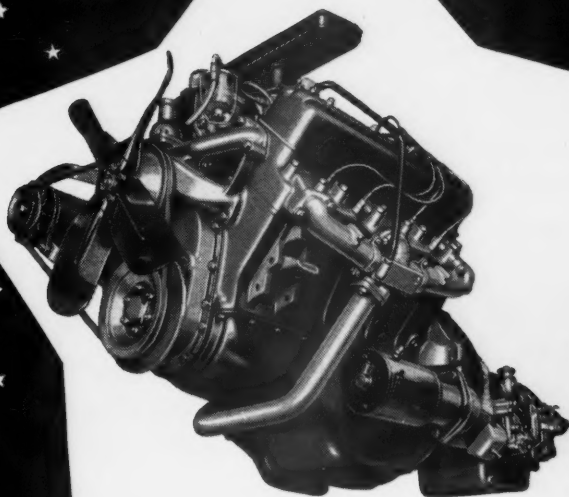
Cadillac Overheats for No Apparent Reason

Our problem is with a 1941 Cadillac which does not lose any water, but it overheats.

What We Did:

We took the radiator apart and
(Continued on page 148)

(Advertisement)



**BRIGHTEST GAS ECONOMY STAR
OF ANY HIGH-POWERED CAR**

New Studebaker Commander V-8

Its overhead valve "wonder engine" delivers a zooming 120 horsepower

**Led all eights* that competed
in '51 Mobilgas Run in actual gas mileage—
also led all sixes* in the standard classifications
except Studebaker Champion**

*Like many of the contending cars, the Studebaker entries were equipped with overdrive, optional at extra cost.

Shop Kinks



\$25

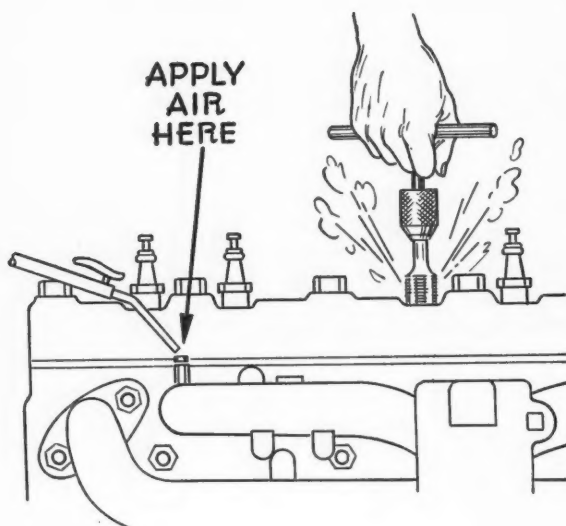
**FOR THE BEST KINK
PUBLISHED
EACH MONTH**

\$7.50

**FOR ALL KINKS
PUBLISHED
EACH MONTH**

If you've come upon an original idea for making a job easier, a special tool, short cut on a job or any trick of value to other readers, write it down and, if necessary, make a rough sketch. Just make it clear. Send it to Motor Age. If we can use your Kink it may bring seven-fifty, possibly 25 dollars.

Best Kink of the Month



Safe Method of Tapping Plug Hole

The other day a '46 Plymouth came in with the threads stripped in number 4 spark plug hole. I had to tap it out to take an 18 mm plug. To keep the cuttings from going down into the cylinder, I turned the engine until the number 4 intake valve was open. Then I turned the throttle stop screw until the throttle valve was closed, took the wiper hose off of the connection on the intake manifold, and connected my air hose to the same. While I was drilling and tapping the spark plug hole, I turned on the air about 90 pounds and the air pressure came up through the spark plug hole to blow out the cuttings. A little care in starting the tap and this completed the job without taking off the head. *John S. Wyatt, 6645 Home City Avenue, Cincinnati, Ohio.*

Clutch Removal on Late Model Nashes

I save time when doing clutch work on late model Nashes by using the following method. After removing the transmission in the usual manner, disconnect the rear motor mounts and place a block of wood and a jack under the engine oil pan. Jack the motor up as far as it will go. This gives the clear-

ance that you need between the bell housing and the motor support cross member to allow your clutch pressure and clutch disc to come out. *C. L. Rawleigh, Magee, Nash, Mt. Morris, N. Y.*

Slit Washers Hold Valves for Camshaft Removal

Within the last six months we replaced two camshafts. Seeking

a suitable way to hold up the valves to remove the shaft, we figured out a way to do the job. We took a large set of flat washers, 2 in. outside diameter with a 1/2 in. hole in the center. Then we slit the inside hole to the outside the same size as the center hole. We then lifted the valve lifter and slipped the slit washer under the valve, (Continued on page 60)

Speedway winners **PROVE**

Superior performance of NURLIZING!



This unretouched photograph of the four pistons of Lee Wallard's record-breaking Belanger Special was taken immediately after the Indianapolis 500-Mile Race. Notice the excellent condition of piston skirt, rings and conventional Nurlizing pattern.

Perfect Circle's Exclusive Method of Resurfacing Pistons for Closer Fit and Better Lubrication

At Indianapolis, a new speed record—First second, third and fourth-place cars were equipped with Nurlized pistons and P.C. rings!

At Milwaukee, a new dirt-track record—And the first *nine* cars to finish had Nurlized pistons and P.C. rings.

In 1950's AAA Races—Nine out of the eleven championship races were won by cars which were similarly equipped!

NURLIZING, an exclusive Perfect Circle process, assures dependable peak performance even under the most severe operating conditions! Whether pistons are new or worn, Nurlizing restores power and prevents piston slap—without danger of scuffing or scoring. For better engine overhauls—added thousands of satisfactory miles—real customer enthusiasm—get the Nurlizing story today! Perfect Circle Corporation, Hagerstown 3, Ind.

ONLY PERFECT CIRCLE NURLIZING GIVES YOU THESE SIX ADVANTAGES:

1. Increases piston diameter to exact predetermined size quickly, accurately, permanently.
2. Permits closer fit without danger of scuffing or scoring.
3. Eliminates piston slap, stabilizes pistons and increases ring life.
4. Interrupted surface assures adequate lubrication—longer piston life.
5. Is equally effective on new or used—cast iron or aluminum pistons.
6. Enables dealers and Doctors of Motors to do a better overhaul at a lower price.

Perfect Circle NURLIZING



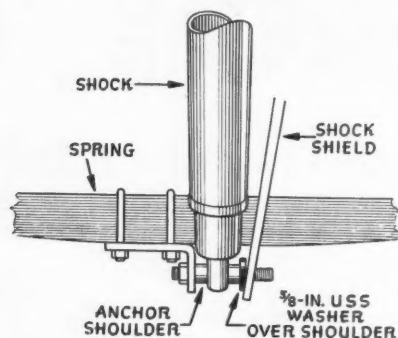
NEW LIFE FOR OLD PISTONS . . . LONGER LIFE FOR NEW PISTONS

Shop Kinks Continued from Page 58

and let the valve down and held up the tappets with a clothespin. It really does the job with no possible damage to the valves. *Wm. E. Ruge, Kuhlman & Nagel, Inc., 918 Walter Avenue, Des Plaines, Ill.*

Remove Thump Caused By Loose Shock Mounting

On some cars with angular mounted rear shocks, the rubber grommets will let the shock absorber move back and forth, caus-



ing a thumping noise when hitting a bump. This can be eliminated by installing a $\frac{3}{8}$ inch USS washer between the grommet and the shock shield over the shoulder and drawing the nut up tight. *Mel Blodgett, H & M Sales & Services, Inc., 1707 Jackson Rd., Albion, Michigan.*

Ammeter in Fuse Circuit Helps to Find Shorts

I have a suggestion which I believe might be helpful to other servicemen. Sometimes a short circuit can be very hard to locate especially if the car doesn't blow fuses when checked. First remove the fuse. Then connect an ammeter in series in place of the fuse. Turn on the accessory giving trouble. Naturally if the fuse is too small or the circuit is overloaded, the trouble will be immediately evident. However, if the accessory works O.K. and the current drain is normal, have a helper watch the ammeter while you shake the wiring loom and move every wire on the unit that might be causing the short. When the short is located it is very evident to the man watching the meter and he can immedi-

ately disconnect the ammeter or turn off the switch. The short will be evident to the man who is moving the wires also. I have cured many running shorts in this manner and it has greatly shortened the length of time spent on such troublesome jobs. *Chuck Kennell, 449 Buchanan St., Fort Wayne, Ind.*

Hydraulic Ram Helps in Removing V-8 Oil Pans

After years of taking V-8 oil pans off I came upon this idea. To remove the pans on '35 to '41 V-8, unbolt the two motor support bolts in the front in the usual way. Remove the starter, cross pipe, pan bolts and the radius rod cup. Use a hydraulic ram or jack in between the front cross member and the nut on the rear motor stabilizer. When the power is applied on the jack, the motor will rise about one inch and then will go back one-half inch. Put the number one rods down. Then the pan can be removed easily, without letting the water out or breaking the hose. *H. B. Jack, 408 East 13th Street, Tempe, Arizona.*

Motor Turning Tool Made From Crankshaft Pulley

To make a tool that turns motors while in the process of rebuilding, take an old crankshaft pulley, which usually has to be replaced and turn off the pulley part down to the hub. Weld a 6 in. extension on to the hub and a 18-in. cross bar on the extension. The hub has a keyway which when put on the crankshaft keeps it from slipping. I have made one for several different jobs on motors and find them to be most satisfactory. One advantage is with the extension welded to the hub you can complete a motor rebuilding including water pump without removing the turn bar. *H. M. Gardner, 1011 W. 4th St., Greenville, N. C.*

Drill Removes Broken Spider Gear Shaft Lock Screw

When the spider gear shaft lock screw in the differential is broken,

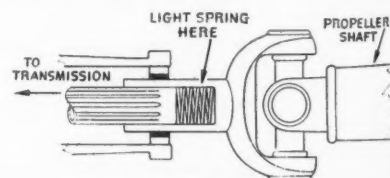
the portion left in the case can be removed by drilling a $\frac{3}{16}$ in. hole just below the pin. It must be high enough so the bit will fit the pin by a small margin and, if you're careful, the pin will be worked out by the turning action of the drill. This method has been successful in every instance. *A. H. Zentner, Janesville, Wisconsin.*

Tool Saves Time in Replacing Studebaker Spring

This tool really saves time and work. When installing the front spring U-bolts in all '47-'49 model Studebakers, remove the saddle plate. Ordinarily, the spring slips up into the cross member so that you have to drop the one side of the spring to replace the bolt. With this tool you simply remove the saddle plate, slip the tool over the good bolt with the flat washers and nuts. This draws the nuts up tight and will pull the spring down, giving sufficient clearance to remove the broken bolt and install the new one. I used $\frac{5}{16}$ inch stock to make this tool. The slot on one side makes it adaptable to either Champion or Commander models. *Donald Murphy, 108 Connecticut Ave. New London, Conn.*

Removing the "Clunk" From a Driveshaft

We have developed a method of eliminating the annoying clunk sound when accelerating or decelerating which is heard on many cars. There may be just enough end play in the transmission drive shaft to make a clunking sound as the spline moves back and forth on the shaft. This occurs when pressing on the



gas pedal or taking the foot off it, or when going over a bump. So, by placing a light spring such as a fuel pump diaphragm spring inside the universal joint spline as shown, we then take care of the end play and the clunk sound. *David T. Roberts, Village Garage, 834 North Western Avenue, Lake Forrest, Ill.*

Announcing
The Finest Auto Undercoating
Ever Made!

**NOW...READY FOR
YOU...THE NEW**

fendix®
WITH NR 508

Out of the laboratories of America's leading producer of rust preventive products comes a brand-new idea in auto undercoating. **NEW FENDIX with NR 508**...the miracle rust preventive that gives the **NEW FENDIX** unmatched power to stop rust. No other undercoating can match the new **FENDIX**. Order a trial drum and you'll agree "It's the finest auto undercoating made."

Just Look at These Exclusive Features

- **CONTAINS NR 508**...miracle rust preventive that stops rust before it can start.
- **SAVES LABOR TIME**...**NEW FENDIX** is easier to apply.
- **SAVES MATERIAL COSTS**...use just half as much of the **NEW FENDIX** (1/16") for maximum rust prevention.
- **BETTER PROTECTION**...**NEW FENDIX** offers better adhesion and cohesion. Won't flake off, slump or flow. Has greater resiliency and flexibility...expands and contracts without cracking or separating.
- **BETTER PROMOTION**...complete sales tools to help you sell undercoating on every car that leaves your shop.

**JOIN THOUSANDS WHO ARE WINNING
VALUABLE, WORTH-WHILE GIFTS**

You can earn top-flight gifts just for using **FENDIX**. Yes, a valuable bonus check is given with every drum of **FENDIX** you purchase. These checks can be used to get your choice of gifts. Get full details today from your nearby **FENDIX** jobber. Get **FENDIX**...the undercoating with the extra bonus in every drum.



**CONTACT YOUR NEARBY FENDIX JOBBER
FOR A TRIAL DRUM**

**FOR THE NAME OF YOUR NEAREST JOBBER,
WRITE OR WIRE**

NOX RUST CHEMICAL CORPORATION

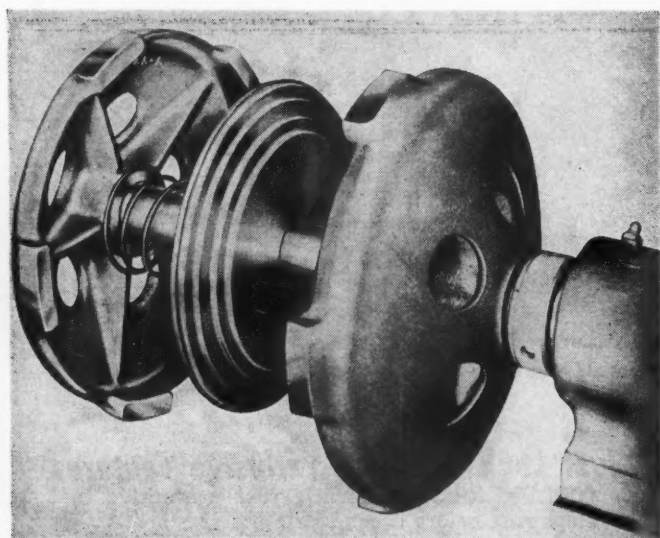
2433 S. HALSTED STREET, CHICAGO 8, ILL.

Eastern Division, 201 Davison Chemical Building, Baltimore 1, Maryland
Western Division, 725 Second Street, San Francisco 7, California



new PRODUCTS

FOR FURTHER INFORMATION USE



◀ 397. Drum Lathe Attachment

Barrett Equipment Company announces a new floating drum attachment for servicing truck drums which are detachable from the hubs. The complete set consists of three step cones, two 6½ inch face plates and two 9 inch face plates and one compression spring. It is sized to fit arbors of all popular drum lathes.



▲ 398. Welder's Mask Window

Argyle Mfg. Co. is producing the "Quick-Lift Window," a device which fits on a welder's hood. It contains a smoked glass which is raised to permit vision, by blowing into a mouthpiece, or lowered by drawing on it.

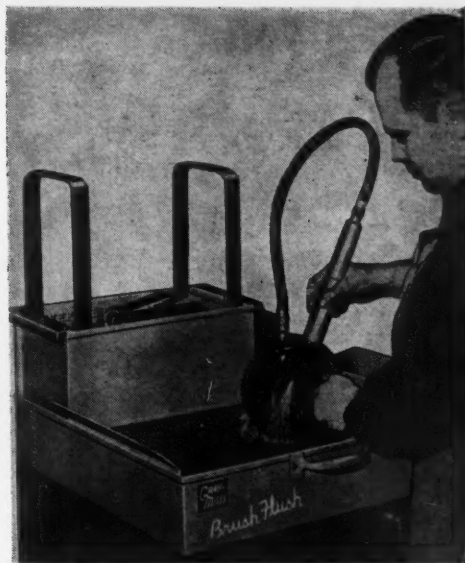
◀ 399. Deep Socket Set

Bonney Forge & Tool Works announces the addition of a series of ¼ inch drive, 2-inch deep, thin walled sockets, designed to eliminate



SHOW WINDOW

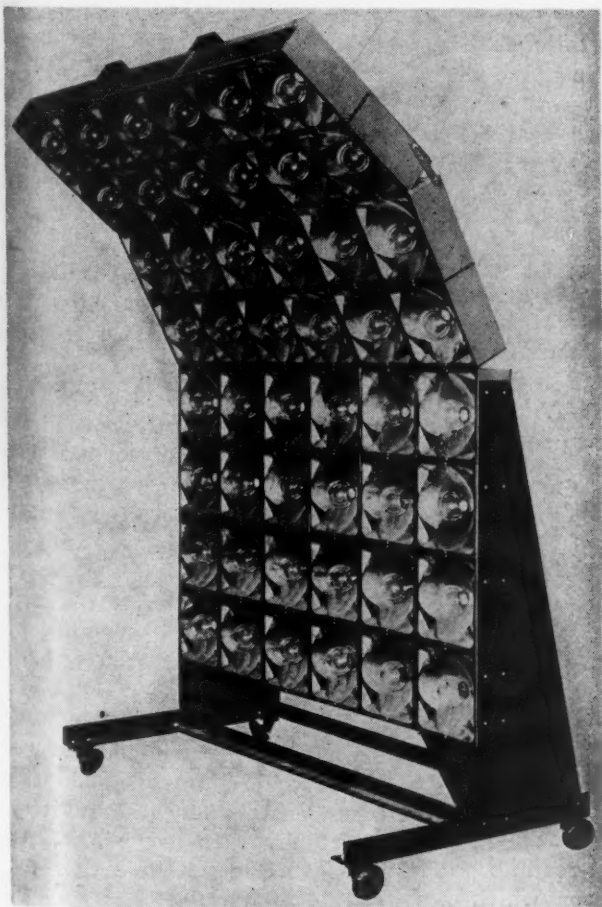
POSTCARD FACING NEXT PAGE



the need for a short extension in hard-to-get-at adjustments. They are especially designed for ignition, carburetor, radio, dash board and interior work on cars. This series of sockets is available either singly or in a set from 3/16 through 7/16 in.

▼ 400. Paint Drying Unit

The Fostoria Pressed Steel Corporation announces a new "big brother" in their line of Durabake port-



able units. This model 86-848 features the gold-plated Evenray radiant wall. It is designed for drying of enamels, lacquers, and undercoats on either passenger cars or commercial vehicles.

▲ 401. Small Parts Cleaner

Graymills Corporation has developed a new bench type parts cleaner known as the Brush-Flush, which has a fountain brush action. It features a hollow tube to produce a steady flow of solvent at the end of the bristles.

▼ 402. Heater Motor Display

The Leece-Neville Company announces Fall promotion of Leece-Neville heater and air conditioner motors mounted on a new "match up" board. The correct replacement is made by matching the old motor with the right new one.

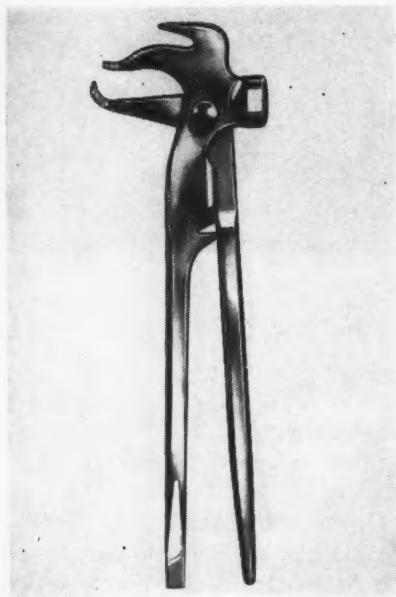
(Continued on page 64)



New Products Continued from page 63

403. Wheel Weight Tool

Turner Manufacturing Company announces its new D & T Wheel Weight Tool which embodies features for applying and removing



weights and opening or closing clips. It has a tapered handle for removing hub caps and shears for cutting weights to smaller sizes where required. The manufacturer states that the tool is made of high grade chrome vanadium, drop forged, heat treated steel.

404. Lock Anti-Freeze

Elektrik Seal Laboratories announce Key-Hole Anti-Freeze, a compound which, with one application, is said to protect any automobile lock against freezing for the life of the car. Key-Hole Anti-Freeze comes in the form of a transparent liquid and is supplied in tubes. The cap of the tube is unscrewed and the spout pressed against the lock keyhole-opening. The tube is squeezed until one-fourth of the contents has entered the keyhole. Then the key is inserted and the lock operated several times so as to work the substance into the mechanism.

405. Wiper Motors

Signal Mfg. Co. is introducing a new dual electric windshield

wiper motor to replace practically all vacuum motors operating 2 wipers. The new Signal Dual Electric Windshield Wiper Motor is said to be easy to install and to cover more than 90 per cent of today's vacuum replacement market. Signal also manufactures a motor that operates only one blade as well as a line of motors for heaters and defrosting and ventilating fans.

406. Valve Chart

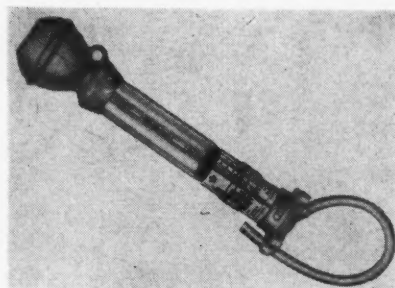
Rinck-McIlwaine, Inc. announce publication of a new valve spring tension chart, a comprehensive compilation of valve spring tensions for passenger cars, trucks, tractors and engines. It covers models from 1940 to 1951 inclusive for approximately 95 percent of the American vehicles.

407. Shock Preventive

Electro Chemical Products Corp. is producing "Stop-Shok," a colorless, stainless compound packaged in a push button spray container which is used to spray on seat covers to eliminate static electricity shocks. Applied in a fine mist, the carrying agent evaporates, leaving a conductive coating which bleeds off all static just as a coating of metal.

408. Anti-Freeze Tester

The Imperial Brass Mfg. Co. is marketing a new line of Kimble Anti-Freeze testers and battery hydrometers. Featured in this line is the new model 556-TA Universal Anti-Freeze tester, said to be



easy to use in testing alcohol, methanol and ethylene glycol. This tester is direct-reading and has a slide calculator which is

designed to indicate the protection point of the solution. The thermometer and chart are hermetically sealed under glass and the float is protected in a rubber well.

409. Plastic Spray Kit

Krylon, Inc., announces a new Automotive Krylon kit which includes three 12-ounce containers



of the Acrylic spray, a wall poster, explanatory leaflet and 12 ignition tags. The introductory package is now being distributed nationally in time for the winter tune-up period. Automotive Krylon, a transparent plastic which hardens almost immediately, provides a weather-tight coating over the entire ignition system designed to prevent corrosion, battery leakage, shorting at terminals, engine failure.

410. Mailing Material

INDARP (Independent Auto Repair Promotions) has developed a new type of direct mail advertising campaign, designed expressly for repair shops and service stations. The direct mail piece offered by this firm gives exact prices on fully described specials, such as winter change-overs, lubrications, and motor tune-ups, so that motorists can see exactly what they get and how they pay for it. The service is offered on a cost sharing feature which allows shops to order from 250 to 300 mail folders, imprinted with their names and addresses and prices arranged on a down sliding scale. The folders can be mailed for as little as a penny a piece.

(Continued on page 66)

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HERE'S HOW TO GET

Free Information

Here is a recap of the New Products described in this issue, along with their code numbers.

On each of the postage-paid postcards below you can request further data on items described in this New Products section. Fill out one of the sections completely for each item in which you are interested.

- 397. Lathe Attachment
- 398. Mask Window
- 399. Socket Set
- 400. Drying Unit
- 401. Parts Cleaner
- 402. Heater Motors
- 403. Wheel Weight Tool
- 404. Lock Anti-Freeze
- 405. Wiper Motors
- 406. Valve Chart
- 407. Shock Preventive
- 408. Anti-Freeze Tester
- 409. Plastic Spray Kit
- 410. Mailing Material
- 411. Protective Coat
- 412. Electric Tools
- 413. Brake Manual
- 414. Windshield Washer
- 415. New Container
- 416. Ignition Parts
- 417. Castor Shims
- 418. Stabilizer
- 419. Chrome Protector
- 420. Antenna
- 421. Toy Jeep
- 422. Steam Cleaner
- 423. Chrome Cleaner
- 424. Trailer Hitch

USE THESE POSTCARDS

<p style="text-align: right;">10/51</p> <p>Name</p> <p>Title</p> <p>Company</p> <p>Co. Address</p> <p>Chilton's MOTOR AGE, Phila. 39</p> <p style="text-align: right; font-size: small;">Write in the number of the product about which you want more information</p>	<p style="text-align: right;">10/51</p> <p>Name</p> <p>Title</p> <p>Company</p> <p>Co. Address</p> <p>Chilton's MOTOR AGE, Phila. 39</p> <p style="text-align: right; font-size: small;">Write in the number of the product about which you want more information</p>
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411. Protective Coat

Roscoe Turner Aeronautical Corporation has announced a new protective coating for automobiles known as Syn-Cote, a plastic based compound made to protect metal, wood, and fabric surfaces. The product is said to be non-inflammable and can be sprayed on surfaces to form a pliable, non-porous

sheet which seals against oxidation and corrosive effects of weather, and water proofs fabric tops.

It is further stated that this product will not crack, check or peel but can be removed easily when damaged surfaces must be repaired. According to the manufacturer, Syn-Cote will not soften

in oil, and resists gasoline, acids, salt water and alkalies. Two quarts cover the average car including chrome. It is claimed to keep color from fading and chrome from rusting. It is claimed that one coat will protect the car finish for about two years.

412. Electric Tools

Portable Electric Tools, Inc., announces their line of PET superduty portable electric drills. These drills are built in different power and speed models to cover the speed and torque requirements in production, construction and maintenance use of 1/4-inch, 3/8-inch, and 1/2-inch capacity portable electric drills.

Features include a body of aluminum die castings for combined strength and light weight; dynamically balanced armature; heat-treated alloy steel gears, and forced ventilation.

413. Brake Manual

Grey-Rock Division of Raybestos-Manhattan, Inc., has announced the 9th edition of the Grey-Rock Brake Service Manual, containing 52 pages and cover, covering adjustment and relining procedure for brakes on passenger cars, trucks, buses and trailers. Several new types of brakes are included in this edition. Diagrams are shown of popular power brake system hook-ups, including air and vacuum systems for buses, trucks and tractor-trailer units. A feature of the Grey-Rock Manual is an expanded section devoted to "trouble shooting" on all types of brakes.

414. Windshield Washer

Denton Hassell Mfg. & Distributing Co. is marketing a windshield washer known as "Squeeze Me," which operates by squeezing a plastic bottle. It is said to fit all cars, trucks and buses and can be installed in a short time without drilling holes. No tools are necessary except a screwdriver in case the window trim molding fits too tightly. This washer is said to wash both right and left hand windshields at the same time.

(Continued on page 140)

FIRST CLASS
PERMIT No. 18
Sec. 34.9, P. L. & R.
Philadelphia 39, Pa.

BUSINESS REPLY CARD

No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY

Chilton's MOTOR AGE

Chestnut and 56th Sts.

Philadelphia 39, Pa.

Attention: Frank P. Tighe, Editor

FIRST CLASS
PERMIT No. 18
Sec. 34.9, P. L. & R.
Philadelphia 39, Pa.

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Philadelphia 39, Pa.

BUSINESS REPLY CARD

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Attention: Frank P. Tighe, Editor





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Chilton's MOTOR AGE

Flat Rate and Service Manual

Service Suggestions

The information presented here has been compiled from the Factory Service Bulletins, as an additional service of Chilton's Motor Age Flat Rate and Service Manual Department.

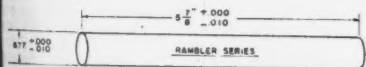
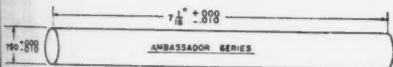
Selected by William H. Lutton

Assistant Editor

Chilton's Motor Age Flat Rate and Service Manual

Nash Transmission Countershaft Replacement

Many requests have been submitted for the factory recommended dummy countershaft used for removal and replacement of the countershaft, countershaft gear, and needle bearings on both the Am-



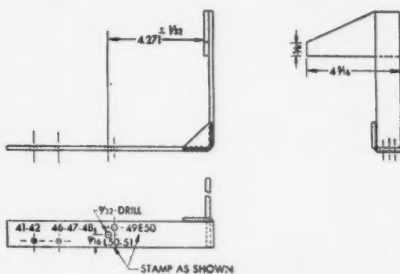
bassador and the Rambler series transmissions. Because these shafts can very easily be fabricated locally, the required dimensions and uses of the shafts are given and illustrated.

Cadillac Hydra-Matic Throttle Lever Angularity Changed

Beginning with the 1950 Cadillac cars, engine No. 62654, the angularity of the throttle lever has been changed to provide smoother shifting action of the Hydra-Matic transmissions. This change in angularity has been continued into 1951 cars. The throttle lever gage should be modified to be prepared for proper

use in servicing recently produced Hydra-Matic transmissions.

To modify your throttle lever gage, follow the procedure as given below and as shown in the illustration.



1. Drill a 9/22 inch hole for adjustment of throttle linkage on late 1950 and 1951 cars, as shown.
2. Cut off the edge of the throttle lever gage to provide clearance for the tool to fit against the machined surface of the rear end of the transmission case.
3. Stamp or etch on surface of throttle lever gage the letter combination "L50-51" to designate the hole used in conjunction with transmissions on late 1950 and 1951 Cadillacs. Then etch or stamp the letter combination "49E50" to designate the hole used in conjunction with transmission on late 1949 and early 1950 Cadillacs.

Steel Asbestos Cylinder Head Gaskets

On Plymouth cars it became effective this last April, and has been used in subsequent production since, to install a new steel asbestos cylinder head gasket. This change

was necessitated by the current shortage of materials, which prevents the use of copper cylinder head gaskets.

Failure to properly torque cylinder head cap screws may easily result in leakage of coolant and also may cause an etched condition of the cylinder head. If this etching is allowed to progress, it may make sealing difficult without first resurfacing the cylinder head. Do not over-tighten cylinder head bolts.

Water Tight Hand Brake To Dash Seal for Hudsons

For Hudson cars which have leakage at the dash where the hand brake mounts, there is a new improved rubber hand brake to dash seal, Part #306166, which will remedy any leaks at this point. It is assembled between the mounting

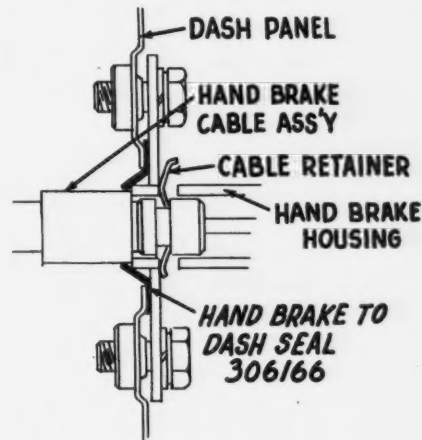


plate of the hand brake assembly and the dash, or body front end panel. This will prevent any water from entering the passenger compartment at this point.

1951 New Passenger Car Registrations by Makes by States*

STATE	Buick	Cadillac	Chevrolet	Chrysler	Crosley	De Soto	Dodge	Ford	Henry J	Hudson	Kaiser-Frazer	Lincoln	Mercury	Nash	Oldsmobile	Packard	Plymouth	Pontiac	Studebaker	Willlys	All Others	Total
Alabama	July 357	64	1239	96	7	70	290	946	55	57	33	26	227	101	266	42	575	358	188	35	8	5,038
Arizona	July 2863	490	9235	893	40	575	1927	8123	550	419	289	189	1941	686	1761	318	4123	2474	1436	194	61	38,557
Arkansas	July 135	27	471	62	2	20	88	283	7	37	12	10	88	42	74	13	193	92	95	10	10	1,771
California	July 1078	218	3277	367	29	81	608	2359	113	316	127	71	639	342	687	163	1096	796	721	62	86	13,338
Colorado	July 223	47	724	71	2	72	186	574	35	48	34	10	154	64	142	27	453	194	136	24	191	3,219
Connecticut	July 1672	323	5708	519	22	516	1195	4391	331	363	299	82	1083	484	1067	200	2984	1480	857	191	7	23,795
Delaware	July 2114	793	6199	970	22	722	1306	4682	143	521	225	169	1931	901	1759	331	3036	2083	1515	224	455	30,101
Dist. of Col.	July 18028	6489	50155	9309	179	5590	11393	40069	1599	5037	1654	1422	13980	6939	14374	2986	23682	15380	12302	1318	3235	246,100
Florida	July 245	65	602	122	8	43	157	507	18	75	39	13	175	83	164	49	305	182	101	48	9	2,918
Georgia	July 2651	501	5422	1014	71	473	1431	4687	215	994	231	185	1440	787	1606	378	2774	1685	872	243	37	27,595
Idaho	July 443	128	1136	200	4	140	483	842	104	139	85	27	265	195	348	98	666	405	282	54	63	6,067
Illinois	July 3576	1049	9000	1585	60	1006	3019	6788	904	1008	627	233	2256	1166	2973	793	4887	3912	2055	349	445	46,806
Indiana	July 75	28	297	27	2	12	57	220	17	5	11	4	33	23	60	18	118	86	75	6	5	1,179
Iowa	July 789	176	2257	231	20	140	577	1911	113	153	99	60	390	182	619	104	893	757	526	41	23	10,061
Kansas	July 108	48	382	59	1	27	117	224	29	31	6	14	58	29	107	20	331	132	51	8	9	1,791
Kentucky	July 1162	416	3572	592	8	291	1045	2536	183	255	70	104	587	270	1020	186	2718	1130	450	63	107	16,785
Louisiana	July 495	142	1361	208	25	114	359	1136	107	82	43	46	426	150	345	89	844	363	229	90	97	6,751
Maine	July 4507	1325	11179	1730	326	879	2989	9412	1198	837	532	461	3409	1129	2710	796	5691	3916	1682	629	843	56,180
Maryland	July 567	91	1649	144	11	72	351	1189	78	57	35	32	355	91	335	48	716	565	216	29	20	6,671
Massachusetts	July 4836	893	14454	1300	83	740	2986	12418	822	725	612	446	3847	861	2806	637	5945	5163	2403	306	180	62,270
Michigan	July 195	42	502	75	3	48	126	405	23	81	30	19	117	96	120	40	243	150	143	58	7	2,523
Minnesota	July 1271	229	2837	411	7	277	712	2185	132	485	250	87	645	502	709	227	1329	967	916	216	24	14,414
Mississippi	July 2451	621	5920	995	20	753	1939	4220	174	822	312	122	1232	953	1688	471	4105	1739	974	86	204	29,801
Missouri	July 18977	4386	44415	7141	184	5259	13971	33446	1723	7850	2809	1136	9857	6365	12539	3465	27569	13418	7917	580	986	224,073
Montana	July 823	203	2655	349	16	267	625	1946	123	202	150	30	395	432	685	120	1436	881	926	72	9	12,445
Nebraska	July 7286	1513	22434	2820	124	2085	5119	17607	1191	2372	1228	418	3542	2953	5041	1214	11100	6475	7025	420	54	101,421
Nevada	July 570	119	1637	265	3	148	485	1302	41	97	96	23	385	252	400	75	997	498	310	28	4	7,923
New Hampshire	July 4673	840	14296	1921	34	1099	3538	11515	392	1001	793	214	2839	1694	3076	670	7096	3885	2219	188	11	61,845
New Jersey	July 461	86	1306	151	5	107	363	1085	65	105	63	21	244	228	293	78	644	367	221	31	4	5,998
New Mexico	July 3642	636	10164	1288	52	786	2442	8424	473	1028	611	194	2268	1528	2194	649	4706	2839	1626	163	16	45,639
New York	July 405	66	1363	134	6	79	287	1038	35	57	43	13	208	172	331	58	596	392	202	32	6	5,522
North Carolina	July 2704	515	9389	1072	31	615	2125	8182	333	488	280	116	1437	1016	2013	420	4236	2874	1498	225	18	39,392
North Dakota	July 328	83	1247	129	9	102	191	1031	36	43	36	17	198	77	240	42	629	220	234	24	5	5,016
Ohio	July 2318	570	9026	920	39	692	1685	7611	399	352	406	131	1504	452	1620	351	4126	2376	1506	171	25	36,284
Oklahoma	July 110	30	427	51	7	46	106	272	42	46	16	9	75	47	98	27	246	108	61	23	4	1,851
Oregon	July 1213	253	3256	450	33	324	880	2317	213	282	178	85	631	386	848	167	1818	981	531	139	26	15,001
Pennsylvania	July 395	97	1523	209	5	136	388	1111	93	142	65	35	255	204	347	89	873	418	235	20	16	6,646
Rhode Island	July 3183	643	11430	1595	44	686	2785	8641	864	1133	403	248	2080	1231	2494	661	5758	2901	1720	204	143	49,027
South Carolina	July 842	230	2158	304	20	303	797	1633	107	194	75	46	3831	2450	6599	1026	11030	6158	3272	443	82	31,372
South Dakota	July 6576	1612	17827	2845	148	2445	5422	13633	816	1719	753	468	3831	2450	6599	1026	11030	6158	3272	443	82	31,372
Tennessee	July 2328	553	6469	815	8	551	1559	5985	248	425	280	126	1277	792	288	3000	2344	740	71	23	29,481	
Texas	July 18135	5072	51612	5524	76	3917	11139	48316	2381	4210	2387	987	9872	4481	12173	2395	22441	17251	5802	481	138	228,550
Utah	July 608	146	2132	250	1	168	364	1373	65	105	96	32	243	171	486	114	971	581	374	30	6	6,274
Vermont	July 5532	1087	16789	2488	21	1806	4217	13100	584	1293	1110	277	2922	1643	3587	980	8608	4657	2982	213	56	73,752
Virginia	July 304	48	626	68	3	52	123	592	31	22	11	8	155	47	148	29	423	214	142	14	1	3,273
Washington	July 2240	379	6467	695	24	379	1150	4944	321	227	231	94	1166	335	1097	216	3082	1562	988	103	17	25,707
West Virginia	July 616	151	2571	275	5	259	498	1964	69	104	66	38	515	396	461	94	1536	841	351	30	13	10,553
Wisconsin	July 6061	1291	21682	2520	58	2008	4280	15807	611	1076	748	347	4377	3129	4109	957	11270	5018	2802	310	72	88,332
Wyoming	July 164	39	478	80	4	30	122	360	24	56	18	15	109	35	122	40	209	105	104	26	2	2,140
Alabama	July 1131	249	3435	500	6	272	794	2658	124	525	152	71	680	279	866	231	1448	934	639	192	15	15,199
Arizona	July 432	103	1041	174	7	84	253	975	19	96	32	19	241	120	237	60	705	348	192	48	3	6,199
Arkansas	July 3037	600	7505	1190	36	510	1560	6929	159	726	345	152	1785	668	1644	470	4122	2502	1242	180	13	35,385
California	July 39	11	105	27	5	18	26	77	3	21	2	5	28	9	20	31	60	26	26	4	1	539
Colorado	July 299	112	724	193	5	60	206	580	21	88	26	30	222	55	206	131	412	190	216	36	3	3,835
Connecticut	July 76	29	263	28	2	23	72	187	24	24	19	4	39	53	56	13	115	98	46	11	5	1,165
Delaware	July 779	150	2526	269	14	147	611	1680	164	277	165	47	439	370	561	148	1095	771	422	125	51	10,811
Florida	July 1046	286	2635	457	11	324	1093	1917	213	299	207	58	584	395	755	221	1548	981	487	100	93	13,710
Georgia	July 8852	2390	21270	3951	110	2456	8097	17251	2049	2675	1780	571	5535	2661	6496	1904	11766	8276	4101	829	563	113,853
Idaho	July 96	23	247	49	1	15	65	166	11	30	8	10	80	30	66	16	143	104	50	17	3	1,230
Illinois	July 998	174	2254	338	27	191	513	1607	90	264	94	71	593	232	595	143	963	760	510	109	9	10,535
Indiana	July 2582	796	5979	1008	22	1152	2633	4082	334	531	352	141	1348	973	1876	494	3700	2172	1068	227	277	31,737
Iowa	July 22985	6252	49808	9839	256	8366	20434	39354	3617	5389	3683	1471	11756	6737	17195	4248	28568	19122	9322	1862	2172	272,416
Kansas	July 623	129	1595	162	11	394	416	1398	147	112	66	23	378	160	415	96	983	590	294	28	27	7,792
Kentucky	July 4987																					



"One slip...and no customer"

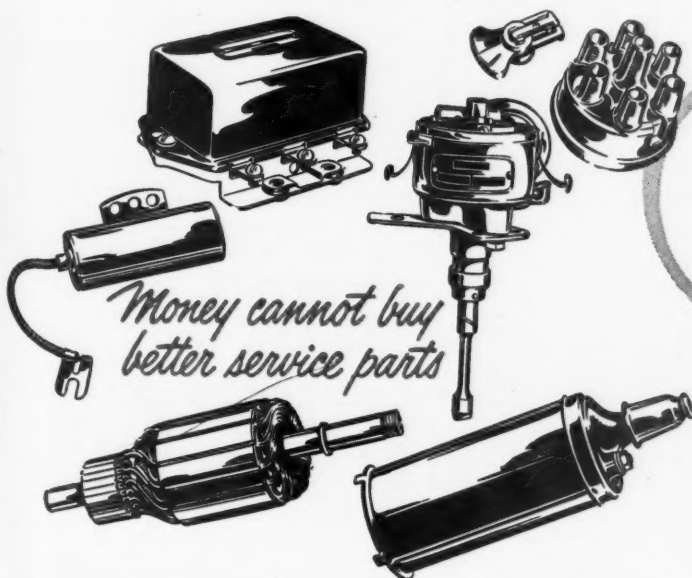
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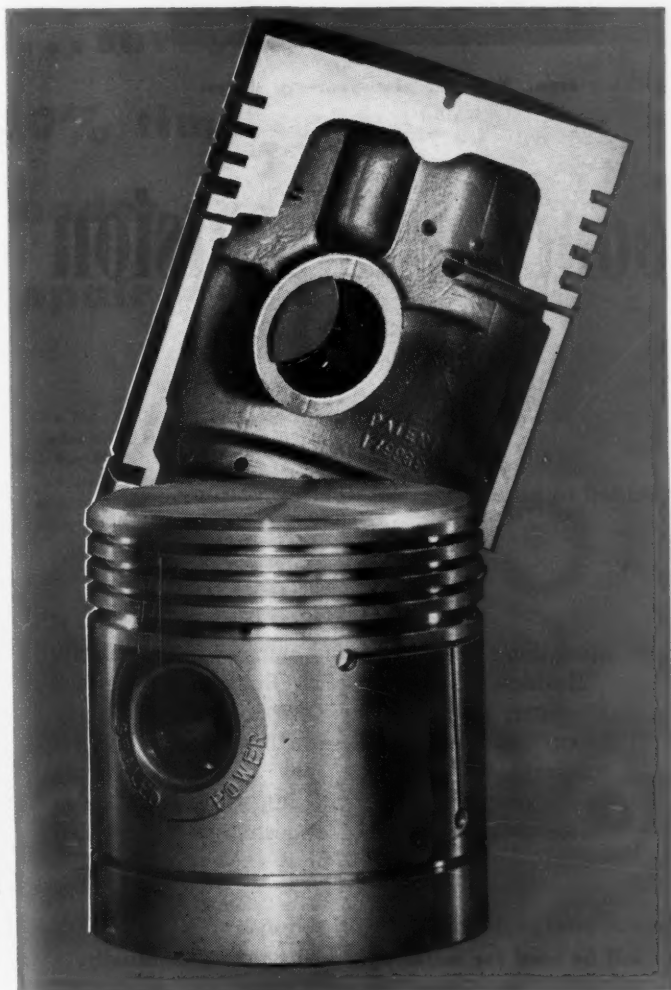
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Current Engine and Tune-up Specifications

ENGINE										TUNE-UP DATA										STEERING														
MAKE AND MODEL	Wheelbase (In.)	No. of Cylinders, Bore and Stroke	Taxable Hp.	Piston Displacement (Cu. In.)	Maximum Brake Hp. (At Specified R.P.M.)	Compression Ratio	Compression Pressure at Cranking Speed (Lbs.)	Spark Plug Make and Type	Rings		VALVES				IGNITION		Caster (Deg.)	Camber (Deg.)	Toe-In (In.)	King Pin Inclination (Deg.)														
									No. and Width	Oil	Seat Angle	Operating Tappet Clearance		Timing	Breaker Point Gap	Spark Plug Gap					Timing													
												Inlet	Exhaust								Inlet	Exhaust	Deg. Inlet Opens Before or After TC	Timing Marks Located	Spark Occurs	Timing Marks Located								
Buick Special 40	121 1/2	8-3 1/2x4 1/2	32.5	263.3	120-3600	6.6	114	AC-46X	2-3/8	2-1/2	2-C	45	45	372	HA	HA	13BT	None	.015	.025	4BT	Fly	A	5 1/2	12	12	12	4 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4 1/2		
Buick Super 50	121 1/2	8-3 1/2x4 1/2	32.5	263.3	124-3600	6.9	118	AC-46X	2-3/8	2-1/2	2-C	45	45	372	HA	HA	13BT	None	.015	.025	4BT	Fly	A	7	18	18	18	4 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4 1/2		
Buick Roadmaster	126.2	8-3 1/2x4 1/2	37.8	320.2	152-3600	7.2	120	AC-46X	2-3/8	2-1/2	2-C	45	45	372	HA	HA	14BT	None	.015	.025	4BT	Fly	A	7	18	18	18	4 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4 1/2		
Cadillac 61, 62, 60	148 1/2	8-3 1/2x3 3/4	46.5	331.0	160-3500	7.5	120	AC-48-5	2-3/8	2-1/2	1-1 1/2	44	44	343	HA	HA	.001	24BT	None	.015	31	.035	5BT	VD	A	5	18	18	18	5 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	5 1/2
Cadillac	148 1/2	8-3 1/2x3 3/4	46.5	331.0	160-3500	7.5	120	AC-48-5	2-3/8	2-1/2	1-1 1/2	44	44	343	HA	HA	.001	24BT	None	.015	31	.035	5BT	VD	A	5	18	18	18	5 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	5 1/2
Chevrolet Six, JJ, JK	115	6-3 1/2x3 3/4	29.4	216.5	92-3400	6.6	110	AC-46-5	2-1/2	2-1/2	1-1 1/2	30	45	341	.006H	HA	16BT	Fly	.021	34	.035	5BT	Fly	A	5	15	15	15	4 to 3 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4 to 3 1/2	
Chevrolet	2100 1/2	6-3 1/2x3 3/4	30.4	235.5	105-3600	6.7	110	AC-46-5	2-1/2	2-1/2	1-1 1/2	30	45	341	.006H	HA	16BT	Fly	.021	34	.035	5BT	Fly	A	5	15	15	15	4 to 3 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4 to 3 1/2	
Chrysler C-51	**	6-3 1/2x4 1/2	28.3	250.6	116-3600	7.0	135	AL-AR-8	2-3/8	2-1/2	2-1/2	45	45	341	.008H	HA	12BT	VD	.020	34 1/2	.035	2BT	VD	A	5	15	15	15	5 to 6 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	5 to 6 1/2	
Chrysler	C-51-8	6-3 1/2x4 1/2	28.3	250.6	116-3600	7.0	135	AL-AR-8	2-3/8	2-1/2	2-1/2	45	45	341	.008H	HA	12BT	VD	.020	34 1/2	.035	2BT	VD	A	5	15	15	15	5 to 6 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	5 to 6 1/2	
Crosley Four CD, VC	80, 85	4-2 1/2x2 1/2	10.0	44.0	25.5-5400*	8.0	125	CH-J8	2-1/2	2-1/2	2-1/2	45	45	313	.005C	.008C	5BT	VD	.020	46	.025	12BT	Fly	B	2	4	4	4	8 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	8 1/2	
De Soto Six, S-15	125 1/2	6-3 1/2x4 1/2	28.3	250.6	116-3600	7.0	135	AL-AR-8	2-3/8	2-1/2	2-1/2	45	45	340	.008H	.010H	12BT	VD	.020	34 1/2	.035	2BT	VD	A	5	14	14	14	5 to 6 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	5 to 6 1/2	
Dodge Six, D-41, D-42	(6)	6-3 1/2x4 1/2	25.3	230.2	103-3600	7.0	135	AL-AR-8	2-3/8	2-1/2	2-1/2	45	45	340	.008H	.010H	12BT	VD	.020	34 1/2	.035	2BT	VD	A	5	14	14	14	5 to 6 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	5 to 6 1/2	
Ford Six, 1HA	114	6-3 3/4x4 1/2	26.1	225.9	95-3300	6.8	110	CH-H10	2-3/8	2-1/2	2-3/8	45	45	341	.014C	.018C	10BT	VD	.025	36	.030	TC	VD	A	4	17.3	17.3	17.3	5 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	5 1/2	
Ford	Eight 1BA	6-3 3/4x4 1/2	32.5	239.4	100-3600	6.8	110	CH-H10	2-3/8	2-1/2	2-3/8	45	45	341	.014C	.018C	10BT	VD	.025	36	.030	TC	VD	A	4	17.3	17.3	17.3	5 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	5 1/2	
Ford	Six, 515, 516	6-3 1/2x4 1/2	26.3	226.2	115-3650	7.3	120	AL-A5	2-3/8	2-1/2	2-3/8	45	45	341	.014C	.014C	10BT	VD	.020	38	.032	4BT	VD	A	5	13	13	13	4 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4 1/2	
Henry J	513	4-3 1/2x4 3/8	15.6	134.2	68-4000	7.0	100	AL-AN7	2-3/8	2-1/2	2-3/8	45	45	372	.016	.020	8BT	CP	.020	36	.030	TC	Fly	A	4	10.8	9	9	4 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4 1/2	
Henry J	514	6-3 1/2x3 1/2	23.4	161.0	80-3800	7.0	100	AL-AN7	2-3/8	2-1/2	2-3/8	45	45	372	.016	.020	8BT	CP	.020	36	.030	TC	Fly	A	4	10.8	9	9	4 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4 1/2	
Hudson Pacemaker 4A	119 1/2	6-3 1/2x3 3/4	30.4	222.0	112-4000	6.7	119 1/2	CH-H8	2-3/8	2-1/2	2-3/8	45	45	341	.008H	.010H	7-18/18 BT	Fly	.020	39	.032	TC	Fly	A	7	18 1/2	18 1/2	18 1/2	3-38	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	3-38	
Hudson Custom 5A-6A	123 1/2	6-3 1/2x4 1/2	30.4	252.0	123-4000	6.7	119 1/2	CH-H8	2-3/8	2-1/2	2-3/8	45	45	341	.008H	.010H	7-18/18 BT	Fly	.020	39	.032	TC	Fly	A	7	18 1/2	18 1/2	18 1/2	3-38	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	3-38	
Hudson Hornet 7A	123 1/2	6-3 1/2x4 1/2	34.9	308.0	115-3800	7.2	123	CH-H8	2-3/8	2-1/2	2-3/8	45	45	341	.008H	.010H	7-18/18 BT	Fly	.020	39	.032	TC	Fly	A	7	18 1/2	18 1/2	18 1/2	3-38	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	3-38	
Hudson Comm. 8-8A	123 1/2	6-3 1/2x4 1/2	28.8	254.0	128-4200	6.7	119	CH-H8	2-3/8	2-1/2	2-3/8	45	45	341	.008H	.010H	10-40/40 BT	Fly	.017	27	.032	TC	Fly	A	7	18 1/2	18 1/2	18 1/2	3-38	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	3-38	
Kaiser Six, 511, 512	118 1/2	6-3 1/2x4 1/2	26.3	226.2	115-3650	7.3	120	AL-A5	2-3/8	2-1/2	2-3/8	45	45	341	.014C	.014C	10BT	VD	.020	34	.032	4BT	VD	A	5	13 1/2	13 1/2	13 1/2	4 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4 1/2	
Lincoln IEL-IEH	118	6-3 1/2x4 1/2	39.2	336.7	154-3600	7.0	110	CH-H10	2-3/8	2-1/2	2-3/8	45	45	341	.014C	.014C	10BT	VD	.020	34	.032	4BT	VD	A	5	13 1/2	13 1/2	13 1/2	4 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4 1/2	
Mercury ICM	118	6-3 1/2x4 1/2	32.5	255.4	112-3600	6.8	115	CH-H10	2-3/8	2-1/2	2-3/8	45	45	341	.014C	.018C	10BT	VD	.020	34	.032	4BT	VD	A	5	13 1/2	13 1/2	13 1/2	4 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4 1/2	
Nash Rambler	5110	6-3 1/2x3 3/4	23.4	172.6	82-3800	7.3	120	AL-A5	2-3/8	2-1/2	2-3/8	45	45	341	.015H	.015H	8BT	None	.021	35	.030	TC	VD	A	5	12	12	12	8	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	8	
Nash Statesman	5140	6-3 1/2x4 1/2	23.4	184.0	85-3600	7.0	120	AL-A5	2-3/8	2-1/2	2-3/8	45	45	341	.015H	.015H	8BT	None	.021	35	.030	TC	VD	A	5	12	12	12	8	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	8	
Nash Amb., 5160	121	6-3 1/2x4 1/2	27.3	234.8	115-3100	7.3	130	AL-A5	2-3/8	2-1/2	2-3/8	45	45	372	.015H	.015H	8BT	None	.021	35	.030	TC	VD	A	6	17	17	17	8 1/2	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	8 1/2	
Oldsmobile Super 88	120	6-3 1/2x4 1/2	45.0	313.7	133-3600	7.5	140	AC-48-5	2-3/8	2-1/2	2-3/8	45	45	342	.015H	.015H	13-18/18 BT	None	.015	29	.030	2 1/2 BT	CP	A	5	21 1/2	21 1/2	21 1/2	4-29/47	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4-29/47	
Oldsmobile	88	6-3 1/2x4 1/2	45.0	313.7	133-3600	7.5	140	AC-48-5	2-3/8	2-1/2	2-3/8	45	45	342	.015H	.015H	13-18/18 BT	None	.015	29	.030	2 1/2 BT	CP	A	5	21 1/2	21 1/2	21 1/2	4-29/47	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4-29/47	
Oldsmobile	88	6-3 1/2x4 1/2	45.0	303.7	133-3600	7.5	140	AC-48-5	2-3/8	2-1/2	2-3/8	45	45	342	.015H	.015H	13-18/18 BT	None	.015	29	.030	2 1/2 BT	CP	A	5	21 1/2	21 1/2	21 1/2	4-29/47	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	4-29/47	
Packard 200-2401	122	8-3 1/2x4 1/2	39.2	288.0	135-3600	7.0	100	(k)	2-3/8	2-1/2	2-3/8	45	45	341	.007H	.010H	15BT	None	.015	27	.028	6BT	.....	A	7	20	20	20	5-50	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	5-50
Packard	250 & 300	8-3 1/2x4 1/2	39.2	327.0	150-3600	7.0	100	(k)	2-3/8	2-1/2	2-3/8	45	45	341	.007H	.010H	15BT	None	.015	27	.028	6BT	.....	A	7	20	20	20	5-50	10 to 1 1/2	10 to 1 1/2	10 to 1 1/2	5-50
Packard	400-2406	8-3 1/2x4 1/2	39.2	327.0	15																													

Sealed Power HEAVY DUTY PISTONS



Built to outwear all other Pistons!

- ✓ Genuine Lo-Ex* Aluminum Alloy for longest service.
- ✓ T-Slot for uniform heat transfer.
- ✓ Cam-ground for greater bearing area.
- ✓ Rugged internal construction with extra metal where needed.
- ✓ Heat-treated for maximum resistance to extreme pressure and high temperatures.
- ✓ Available with Ebonited surface, GI-60 groove insert and pin fitted.

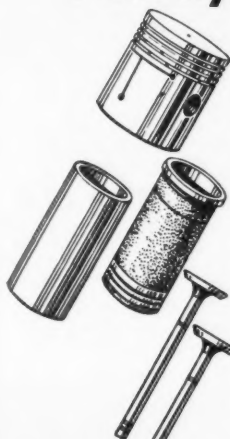
*Registered trade mark of Aluminum Co. of America

**For best results, re-power
with Sealed Power Pistons!**

Write for name of nearest distributor

**SEALED POWER CORPORATION
MUSKEGON, MICHIGAN**

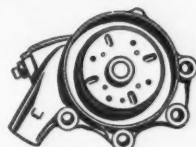
Always use Sealed Power parts for best results



HEAVY DUTY PISTONS—Aluminum or cast iron as indicated; exclusive T-slot design, cam ground, ruggedly designed, heat treated. Equal to or better than original equipment.

WET OR DRY SLEEVES—Machined from closely controlled castings, with exceptionally fine grain and dense molecular structure for long wear.

VALVES—Sealed Power Valves and valve parts are made from the correct grade of chrome nickel alloy steel for each engine, for finest performance and maximum service.



WATER PUMPS—Manufactured from finest quality materials to highest standards. Our line is complete.



KING BOLTS & BUSHINGS—Manufactured from highest quality forgings, and heat treated to meet your exact requirements.

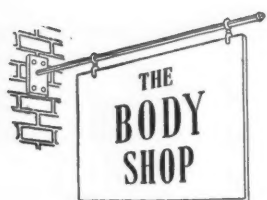


TIE RODS & SHACKLES—Sealed Power Tie Rods, Spring Shackles, and Front Wheel Suspension Parts meet specifications of original equipment.



View of the body shop from the wide parking area. Note the abundance of doors.

Body Shop Has Room for Expansion



While not too large for present needs, this shop can be readily expanded to handle increased shop volume

AT the present time Warrington Oldsmobile, Phila., Pa., is not going after outside body work. However, they average 15 jobs daily, mostly from their own dealership's customers. So when they built their new body shop they planned it in two ways: first, to handle their regular customers as efficiently as possible, and second to be readily expandable into a larger

operation when volume increases sufficiently.

Besides W. Patton, Jr., Body Shop Service Manager, nine men are employed in the body shop. These include a shop foreman, two metal workers, two painters, one general mechanic (who specializes in removing rattles and performs other miscellaneous mechanical jobs which

(Continued on page 126)

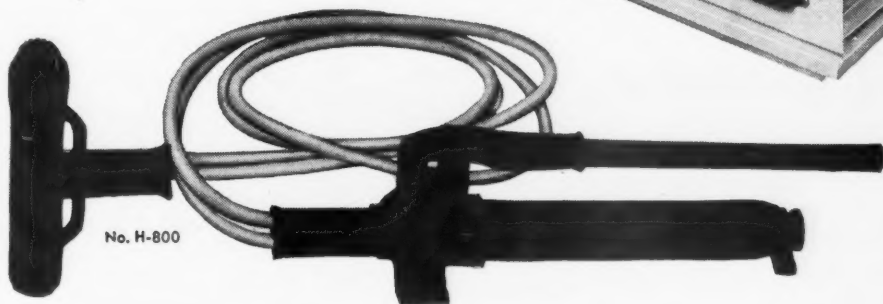
Floor plan of the new building. The left side also will be used for metal work and painting eventually.



HEIN-WERNER "PUSH and PULL" HYDRAULIC JACK

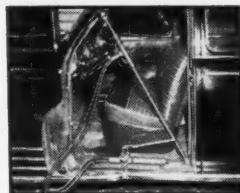
....saves up to
50% time on body,
fender and frame
repair jobs

The No. 4SUA set illustrated includes model H-800 remote control 4 ton PUSH and PULL Jack, No. 7-A assortment of 30 essential attachments, and B-4 steel storage and carrying case.

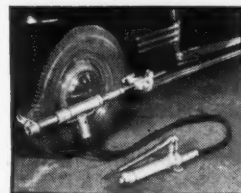


No. H-800

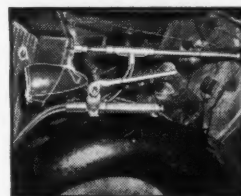
- ★ Push and pull with one ram—just turn release valve to right or left
- ★ Easier to set up—pulls direct with fewer attachments
- ★ Pump operates at any angle and in any position
- ★ Protected by safety valves—cannot be overloaded
- ★ Cannot become airbound at any angle or in any position
- ★ Hose guards add years to life of hose
- ★ Available in 4, 10, and 20 tons capacity, with a wide variety of attachments . . . for body, fender and frame repairing



PUSHING Post into position



PULLING Front Fender



ALIGNING Radiator and Grille

Ask your jobber

or write us for complete information

HEIN-WERNER CORPORATION • Waukesha, Wis.

Hein-Werner also manufactures Bumper-Lift Hydraulic Jacks for passenger cars... Under-Axle jacks for trucks and buses... Cylinder Sleeve Pullers... Swift-Lift and Service Jacks for shop use.

Hein-Werner
HYDRAULIC JACKS

Ring Job Notebook . . . Continued from Page 39

Notes on Buick Engines

The oil pump cover plate should be removed and checked for wear and for being warped. Also the pump gears should be examined and replaced if necessary. Also clean and check the oil pump relief valve. Soldering the drilled hole in the valve will assure good

oil pressure when the engine is idling.

On 1936-42 engines quite a little oil finds its way down the valve stems, which causes excessive oil consumption. A satisfactory remedy is to plug up the spurt holes in the rocker arms with lead pellets. On the later models a deflector was added on

top of the rocker arm to deflect the oil from the valve stems. When doing a valve and carbon job, it is advisable to install valve packing as an added insurance to control the oil.

Whenever working on a 1941 model, the breather system should be changed over to the new type. Buick Motor Company has available a conversion kit which can be easily installed. Many comebacks could be eliminated on ring jobs if the following procedure was used on every job that was to be re-ringed.

Cylinder Ridges

Remove the ridge from the top of the cylinders before taking out the rods and piston assemblies. This in most cases will prevent breaking the piston ring band.

Checking Cylinders

Before installing the new rings mike the cylinder bores at the bottom below the ring travel to determine the exact size of the cylinder bores at the least worn portion. This can be done by taking one of the new rings and pushing it down with the piston below the ring travel and then check the gap at that point and then again in the ring travel. Comparing the two will give you a good idea of the cylinder condition.

Next take a dial indicator or a similar device to determine the amount of out-of-round and taper. Usually the taper should not exceed three thousandths inch per inch of cylinder diameter. And

(Continued on page 76)



JOHNSON BEARINGS for EVERY automotive need

HERE is a complete line of Sleeve Bearings and Bushings—for all leading makes of cars, trucks and buses. Johnson Bearings are top quality, accurate and multiple-checked for all dimensions. They are made to the same precise specifications as those furnished manufacturers for original equipment. Know this famous line—write today for Catalog.

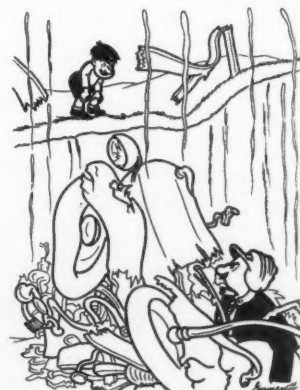
Johnson Engine Bearings are packed in complete sets. Sell in complete sets—saves your customers money—protects your reputation.

SLEEVE BEARING HEADQUARTERS Since 1901



Johnson Bronze

455 SOUTH MILL ST. • NEW CASTLE, PA.



"Say Mister—what make is it?"

FIRST WITH CAR OWNERS



Why Sell Anything Less?

Around the world, more car owners protect their car engines with Mobiloil than any other brand of motor oil. Good reason . . .

Mobiloil is backed by the greatest research and refining experience in the oil industry . . . by the prestige and selling power of the Flying Red Horse!



Increased Customer Contacts through Proved Training Program . . .

Here's another big plus you get selling Mobiloil . . . *the finest lubrication and sales training program of its kind!*

Socony-Vacuum maintains a nationwide staff of retail training experts. They will train your men in every phase of correct

lubrication. And that's not all! They will also show your men how to feed more business to your other service departments—and so help these departments absorb more operating overhead.

Sell *Mobiloil*—and watch service business grow!



SOCONY-VACUUM OIL COMPANY INC., and Affiliates: MAGNOLIA PETROLEUM COMPANY, GENERAL PETROLEUM CORPORATION

Ring Job Notebook . . . Continued from Page 74

the out-of-roundness should not exceed two thousandths inch per inch of cylinder diameter. If out-of-roundness and taper exceed the above limits, the cylinder should be reconditioned to the next over-size and new pistons installed. Many ring manufacturers recommend that this cylinder wall glaze be broken with a hone or similar

device on all types of cylinders. Others say to break the glaze or hardened surface on hard steel or hard cast iron cylinder liners.

Preparing and Checking Pistons

Before mounting the rings on the pistons the grooves and the oil drain holes should be thoroughly cleaned and the ring grooves

checked for bell-mouth; if they are bell-mouthed they must be machined and a suitable shim added to the ring or an extra wide ring used to take up the added width.

If top rings are loose or bell-mouthed, blowby is usually the result from that condition. On all ring jobs the ring groove depth should be checked as some use shallow and others use a deeper groove. All ring land clearances should be checked. This can best be done by laying a steel scale along the skirt, that is, using the skirt as a straight edge.

new **OTC** HYDRAULIC SLEEVE PULLER & INSTALLER

FOR TRUCKS • TRACTORS • POWER UNITS

pull or install cylinder sleeves with the OTC POWER-TWIN in minutes instead of hours . . .

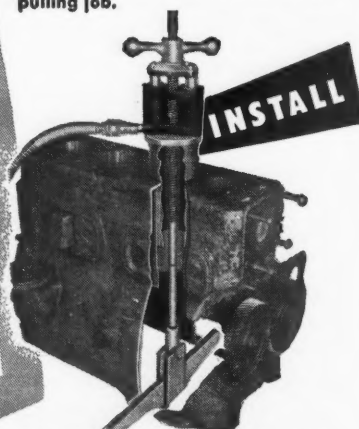
"POWER-TWIN PAYS FOR ITSELF IN ONE DAY'S OPERATION."

These are the actual words of a shop owner the first time the Power-Twin Hydraulic Sleeve Set was used in his shop. You too will be amazed at the ease and speed with which this new OTC tool removes and installs wet or dry cylinder sleeves. What used to be a "Tough Job" now becomes simple with the sensational OTC Hydraulic Sleeve Set.

- Converts all OTC Sleeve Pullers to hydraulic power by the addition of only a few parts.
- Removes and installs either wet or dry 3" to 6" sleeves faster, easier.
- Operates on over 200 makes and models of trucks, tractors, busses and power units.
- Fully adjustable to provide clearance regardless of position of cylinder head studs . . .
- Centers accurately over bore.



Removing either wet or dry sleeves is simple with the new OTC Hydraulic Puller. Above is typical sleeve pulling job.



Dry cylinder sleeves replaced quickly and easily without damage or distortion with the new OTC Sleeve Installing Set.

OWATONNA TOOL COMPANY
321 CEDAR STREET • OWATONNA, MINNESOTA



On aluminum pistons the ring land clearance should be from twenty to thirty thousandths inch. And on cast iron pistons, ten to twenty thousandths inch.

Checking Crankshaft and Bearings

It is important to test the main and rod bearings clearance as these are probably the most common cause of ring failure. When the crankshaft journal is round and the bearing properly fitted, very small quantities of oil escape past the bearings to be thrown up on the cylinder walls where it lubricates the pistons, rings and pins.

When this clearance is excessive, oil is splashed onto the cylinder walls too great for these to take care of. In general crankshaft main bearing journal out-of-roundness should not exceed three thousandths inch. Connect-

(Continued on page 78)

Use Buick Parts

on
**Buick
Cooling
Systems**

Remember—when you buy Buick cooling system parts you get—

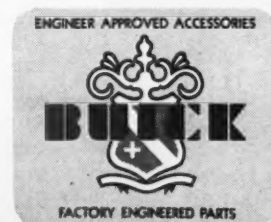
TOP DISCOUNTS from your Buick dealer—with all parts guaranteed.

TOP STANDARDS—built to exact Buick specifications, with rigid final inspections to protect you and the owner against failures.

TOP PERFORMANCE—other parts may look like Buick—but look for the Buick name on the box as your guarantee of highest quality.

TOP QUALITY HOSES—Radiator and heater hoses fit right—are priced right—and engineered to do the job right in the quickest time.

TOPS in TIMESAVERS—Buick *repair kits* for cooling systems will save you trouble and money. Ask the Parts Man at your Buick dealer's.



Better work with Buick parts

see your Buick dealer

Ring Job Notebook . . . Continued from Page 76

ing rod journal should be within two thousandths inch.

Some car manufacturers recommend regrounding or replacing crankshafts when out-of-roundness on any journal exceeds .0015 in. If the bearing journals are slightly roughened but not out-of-round it is practical to polish them with a lapping stick.

A good test for the smoothness of a journal is to scrape a copper penny back and forth across the journal. If traces of copper are left on the journal, it should be polished.

Checking Valve Guides

The valve guides should be checked on every ring job, as too

much clearance between the valve stem and its guide is a very common cause of excessive oil consumption. Particularly when the engine seems to run well, the oil is drawn up between the valve stem and the guide which enters the valve in its guide. But this oil is then drawn into the combustion chamber and burned out with the regular fuel. A quick test of the valve guides may be made by running the engine just above idle with the valve cover removed and by squirting oil from a pressure type oil can at the lower end of the valve guide through the valve spring. Then observe if the exhaust smoke increases, indicating the oil was drawn up the valve stem into the combustion chamber. On each re-ring job it is desirable to install valve packings when available, and if they are installed properly they will limit the amount of oil passing the top of the valve guide.



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Added Sales
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with*

AMERICAN BOSCH GENERATOR REGULATORS

Every popular make car that comes to you for electrical service can be handled with the American Bosch "3 for ALL" Generator Regulator Kit! It comes to you complete with replacement data and installation instructions in an ingenious shipping container that converts to an attractive counter display . . . here's everything you need, right at your fingertips, to keep Regulator inventory down and replacement Sales UP!

The outstanding performance of American Bosch Generator Regulators has been demonstrated in the millions of these precision units used as original equipment. They offer many exclusive features, including voltage regulating contacts of one platinum and one tungsten point, assuring long life and stability. Here's the best Regulator money can buy—priced right for replacement volume. Ask your Jobber about the "3 for ALL" KIT.



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ELECTRIC WINDSHIELD WIPERS • DIESEL FUEL INJECTION EQUIPMENT

AMERICAN BOSCH CORPORATION • SPRINGFIELD 7 • MASS.

Breather System Checks

The breather system should be thoroughly cleaned on all jobs and checked for proper operation, as



a clogged or restricted breather pipe may cause very serious damage on the working parts of an engine as well as causing high oil consumption.

Fuel and Vacuum Pump Checks

If engine is equipped with a fuel and vacuum pump, the vacuum side of the pump should be checked for proper operation. If

(Continued on page 80)

OCTOBER IS MOPAR BRAKE SYSTEM CHECK-UP MONTH

Safety the year 'round with

MOPAR^{TRADE MARK} BRAKE LININGS AND BRAKE PARTS

You can count on MoPar Brake Linings and Brake Parts for top braking safety and economy in your fleet operation.

Because MoPar Brake Linings and Brake Parts are the *same as original equipment* in Plymouth, Dodge, De Soto and Chrysler cars and Dodge "Job-Rated" trucks, they fit right and work right.

Take MoPar Cyclebond Brake Linings, for example. These *rivetless* brake linings give up to 75% longer life . . . assure safer, smoother stops.

Remember, too, that MoPar Brake Fluid, Master and Wheel Cylinders, Brake Hose and time-saving Cyclebond Brake Shoe and Lining assemblies are all *genuine Chrysler Corporation parts*—factory-engineered, factory-inspected and supplied by Chrysler Motors Parts Corporation.

You can get MoPar Parts and Accessories from Plymouth, Dodge, De Soto and Chrysler dealers everywhere.

CHRYSLER MOTORS PARTS
CORPORATION • DETROIT, MICH.

Ring Job Notebook . . Continued from Page 78

it is defective, oil will be drawn up out of the crankcase, into the inlet manifold where it combines with the fuel. And if two spark plugs and the cylinders nearest to the booster pump manifold connection tend to fire it is usually a sign that the booster diaphragm is either torn or porous and should be replaced.

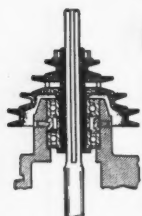
Oil Leaks

If oil leaks around the pan and other parts they are a very frequent cause for high oil consumption. Usually they leak when the car is in motion so that there is not always a large oil stain on the ground where the car is parked. The underneath of the engine should be examined thor-

oughly and the flywheel housing checked for being wet with oil. Or if oil is observed at the front of the oil pan or at the front along side of the block, it is well to assume that they leak even if no oil drips from the car. Actually, one drop of oil leaking out every city block of driving means less than 200 miles on a quart. The oil pressure should be set to factory specifications. Pressure higher than necessary is waste of power and causes excessive amounts of oil to escape past the rod and main bearings and to be thrown on the rings.

SOUTH BEND

14" Drill Press for Better Drilling

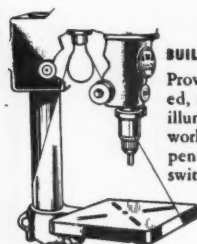
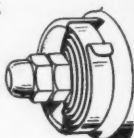


FREE-FLOATING SPINDLE

Design prevents misalignment, side thrust and whip. Precision splines in spindle and sleeve.

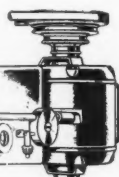
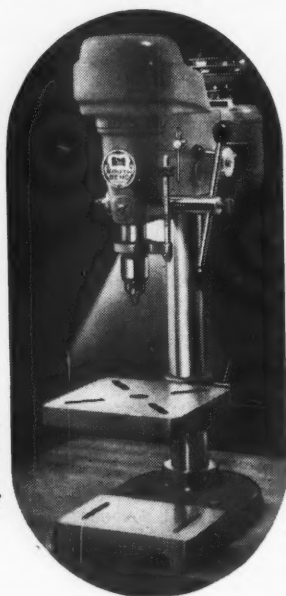
ADJUSTABLE QUILL RETURN SPRING

Retracts quill instantly upon release of feed lever. Tension of spring adjustable.



BUILT-IN LIGHT

Provides shielded, shadowless illumination on work area. Independent on-off switch is built-in.

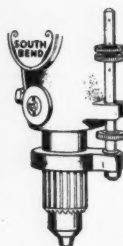


BELT TENSION RELEASE

Flip of lever removes tension from belt for easy speed changes. Proper belt tension maintained.

QUILL BEARING ADJUSTMENT

Shoe-type take-up provides feather-touch tension and secure locking. Quill bearing is NOT split.



DEPTH GAUGE

Controls feed depth, length of return stroke, or locks spindle in any position. 16th graduations.

FOUR PRECISION BALL BEARINGS

Two on spindle, two on drive sleeve. Pre-lubricated and sealed precision type, no oiling required.

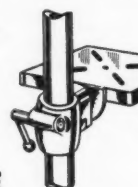
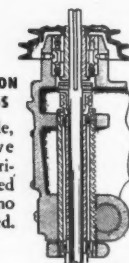


TABLE LOCK

Double-plug binder securely locks table to column. Eliminates misalignment. Column bearing is NOT split.

CAPACITIES

CAPACITY

1/2" drill in iron or steel. Drills to center of 14-1/4" circle.

CHUCK

Capacity—0 to 1/2"

SPINDLE

Drill chuck type supplied. 4" travel.

CHUCK TO BASE DISTANCE

Bench Model—17" Floor Model—46-1/2"

SPINDLE SPEEDS

Four—710 to 4470 r. p. m.

TABLE SIZE

10" x 10". Tilts to any angle.

New DRILL PRESS MANUAL



25¢

post paid

Send for your copy today



Building Better Tools Since 1906

SOUTH BEND LATHE

SOUTH BEND 22, INDIANA

Send information on—

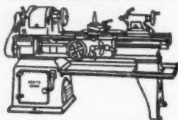
☐ 14" DRILL PRESSES

☐ LATHE TOOLS AND ATTACHMENTS

☐ DRILL PRESS MANUAL (25¢ enclosed)



☐ BENCH LATHES 9" and 10"



☐ PRECISION LATHES 10", 13", 14", 16", 18", 24"



☐ 7" BENCH SHAPER

Name _____

Street _____

City _____

Zone _____

State _____

Notes on Chevrolet Engines

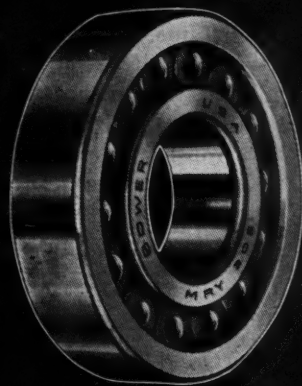
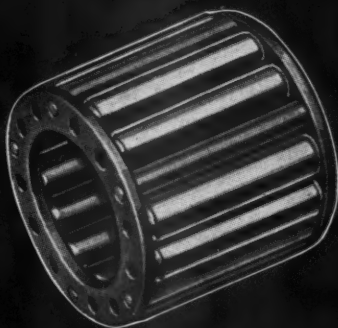
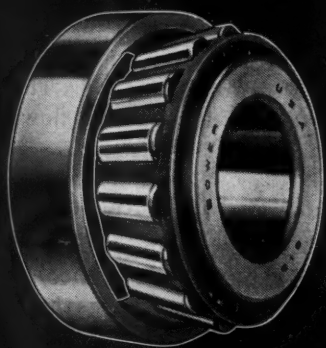
On Chevrolet engines when re-ringing them, the car should be checked for having valve stem covers, that is, they have what they call an umbrella to deflect the oil from the valve guide and they are installed on both the intake and the exhaust valves. If these covers are not replaced, oil will run down the valve stems and high oil consumption will result. Starting in 1948 these covers have been replaced by a rubber grommet in the split locks. When these grommets are removed at the time of a valve job, they must be replaced with new ones or valve stem covers will have to be installed.

Notes on Hudson Engines

When re-ringing Hudson cars, a much better job can be had if the
(Continued on page 82)



"Since this is my first day as a salesman, would you mind giving me the push-overs?"



BOWER ROLLER BEARINGS

TWO DEPENDABLE NAMES...

When you install roller bearings, give yourself the confidence of this powerful backing—Bower Manufacturing Quality and Federal-Mogul Service.

Bower—and only Bower—produces famous Spher-O-Honed tapered roller bearings, plus straight roller bearings in metric and journal assemblies.

Widest possible application coverage. Quick availability through the facilities of the biggest service organization in the bearing business. Get Bower roller bearings from your Federal-Mogul Jobber!



FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)

DETROIT 13, MICHIGAN

It's a Federal-Mogul Service!

Ring Job Notebook . . . Continued from Page 80

cylinder walls are honed lightly to remove the ridge which is caused by the rings being pinned in a straight line. If a hone is used, blowby usually results due to the ridge. If a camshaft noise develops on Hudsons, it is usually caused by a worn fiber washer between the camshaft gear hub and the cylinder block. A spring

plunger is mounted in the timing gear cover to keep the cam pushed toward the rear of the motor. Whenever this fiber thrust washer is worn or missing, the cam strikes the valve lifter guides, causing a noise.

If an oil leak at the crankcase is persistent on a 1948 or '49 model it is probably due to the

crankcase pressure building up and is usually caused by the breather pipe being too long. On some engines the breather pipe, being too long, extends past the valve cover and touches the block, thus stopping the flow of the air out of the crankcase. To remedy this condition cut about a half inch or so off the breather tube. This will permit an unrestricted flow of air out of the crankcase.

Notes on V12 Lincoln Engines

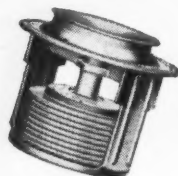
Whenever doing a valve job on a 12-cylinder Lincoln or Zephyr, it is important that the intake and exhaust valve guides not be mixed when disassembled, because the valve guides must be installed in a definite direction. Intake valve guides have a V-shaped opening at the parting line of the halves. This V-shaped opening should be installed next to the cylinders in order to drain oil from valve stems back to the crankcase. Therefore attention should be paid to the position of the valve guides before removing them so that they can be installed in the same position; that is provided they haven't been removed and installed improperly. If these are installed improperly, an extreme oil pumper will result because of oil passing by the intake valve guides.

After engine is rebuilt it should not be left idling. An engine that is idling with new parts will not receive enough lubrication to the cylinder walls. Therefore, it is a good policy to have the throttle part way open and the car left standing where it can get plenty of air.

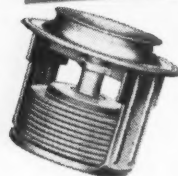


Chilton's MOTOR AGE, OCTOBER, 1951

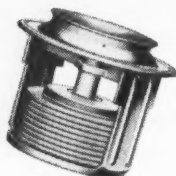
now! 4 temperature settings for Chevrolet, Buick and Oldsmobile



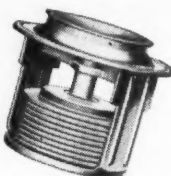
203A Starts opening at 140°



3A Starts opening at 155°



303A Starts opening at 170°



103A Starts opening at 180°

● Thomson's new and broader line of 1951 thermostats is chock full of new numbers—necessary numbers. For example, *electro-fused* Thomson stats are available now in *four*, factory-approved temperature settings for Chevrolet, Buick, Oldsmobile and other

cars. New settings are included for many other makes, including the BIG trucks. Ask your NAPA Jobber for details. New Thomson Catalog No. 3151 lists the entire line . . . clearly!

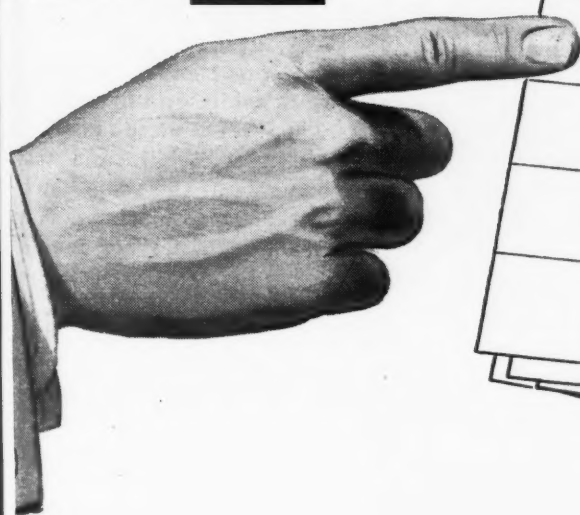
STANDARD-THOMSON CORPORATION
DAYTON 2, OHIO




Used as original equipment by the major car manufacturers

Thomson Thermostats

Why miss profitable repeat sales like this....





BILL'S SERVICE Main Street U. S. A.			
6 qts	Oil Change	2	40
	Lube Car	1	25
	Repack front wheel bearings	1	00
1	Purolator	1	90
		\$6.55	

A cinch: Whenever the dealer checks oil, he has a chance to check an oil filter—a wide-open opportunity to clear as much as \$1.50 extra profit on the sale of a new Purolator* Micronic Refill.

How come? Here's the answer: Today, nearly 8 out of 10 cars and trucks on the road are filter-equipped, need new refills at regular intervals. Today, according to a recent, nation-wide survey, 9 out of 10 drivers buy refills when shown that they need replacements. What's more, thanks to quality construction, wide national advertising, the Puro-

lator Micronic* is the refill generally preferred by dealers and motorists alike.

Easy to get this business? Sure! Just use Purolator tie-in material . . . and stock Purolator refills to sell all the cars that call.

Remember! The Purolator Micronic Oil Filter is the filter with the refill that has 10 times greater filtering area, traps up to 3 times as much dirt as ordinary filters, including abrasives as small as microns (.000039") . . . the refill that leaves the additives in—won't warp, distort, or disintegrate in water or crank-case condensate. *The only refill with Dirt-Check Windows that tell and sell at a glance!*

*Reg. U. S. Pat. Off.



PUROLATOR PRODUCTS, INC.

Rahway, New Jersey • Toronto, Ontario, Canada

Chilton's MOTOR AGE, OCTOBER, 1951



Selling Seat Covers . . . Continued from Page 55

Patterns are made of heavy paper, laid over physical outlines of the seat, then cut to size. They are marked or "indexed," given a metal eyelet, and individual sheets of a pattern are hung on a rack in one corner of the shop, with even the rack hooks labeled.

Materials are kept on giant rolls, in a vertical rack, near one end of a work table. The worker just unrolls some material, places

the pattern on the flat piece, marks with chalk and cuts. Pieces are marked so the sewer will know their proper disposition.

Several commercial sewing machines are used for the sewing, which requires skill of the highest type.

With a cover sewed, it remains to be installed. This might require some dismantling of a seat to get the tightest, most durable

fit, but this firm has trained men who know the simplest way.

"We sell a service, a good job for a fair price, and we guarantee all the work," said Fainstein. "We're after that repeat sale, not just the sale of the moment."

This guarantee reads: "Our covers are sold to you with an unconditional guarantee for six months against tears, breaks, cigarette burns or any part wearing out. There are absolutely no charges for repairs of any kind."

Prices range from \$14.95 to \$34.50, roughly, on all auto seat cover jobs. The Erie firm employs a dozen persons, and can turn out about 40 complete seat covering jobs daily. There are three large, sturdily constructed, hard-surfaced work tables and five smaller individual tables with bins for tacks, decorative nails and tools along one side of the shop. Along with the sewing machines and other tools, facilities for making covers represent an investment of several thousand dollars.

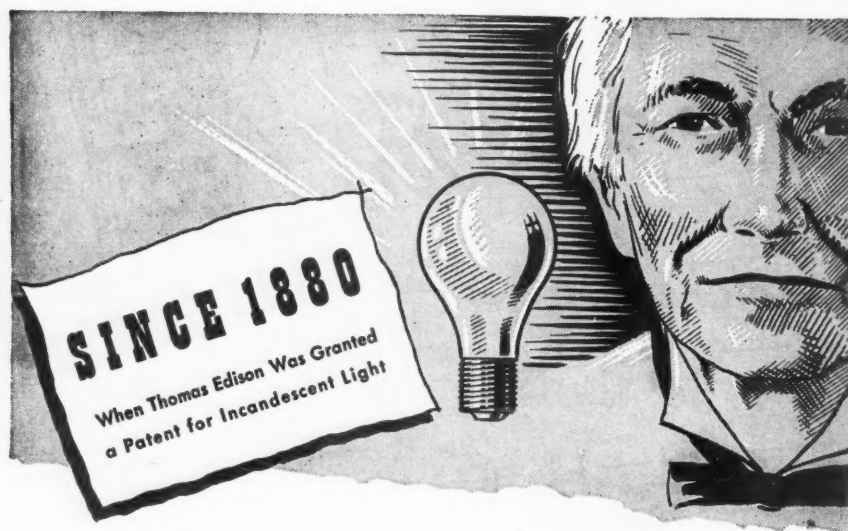
There are three substantial "asides" to the main seat covering business: convertible tops, upholstery, and truck cushion work.

Convertible tops are made from wood framing or metal, right down to fasteners for window insertions (plastic and hardware are bought and stocked), for an average of about \$50. Upholstering of soiled or burned material in a car may run from \$17.50 for a partial cover of a front seat to around \$100 for a complete car ceiling, door panels and rear seat upholstery following a fire.

"In case of a fire in a car, we even take the burn odor out of the car," stated Fainstein. "We set a deodorant diffuser on the floor of the car and close it up for a few minutes."

While the bulk of Erie Auto Seat Cover Co.'s business is retail, some wholesaling is done to new and used car dealers. The plant is attractively fronted on a main thoroughfare, and has a sizable, inviting showroom.

Advertising is done in the three main media: newspapers, radio and TV. The latter is a "live" show with local people in a "Quiz-down" that has a large following among area viewers.



TUTHILL

has specialized in the manufacture
of top quality

SPRINGS

There's more than steel and 70 years of EXPERIENCE in Tuthill Springs.
There's more than QUALITY . . . the finest alloy steel obtainable, heat treated
for greater strength and longer life. There's also PROFIT in fast turnover for
a product that is constantly in demand because it's dependable and
priced right. And now there's even more . . . MOLYBDENUM DISULPHIDE (MoS₂),
the newest Tuthill extra that keeps springs from squeaking and galling.
What's more, Tuthill Springs are "Moly Disul" treated at no extra cost!



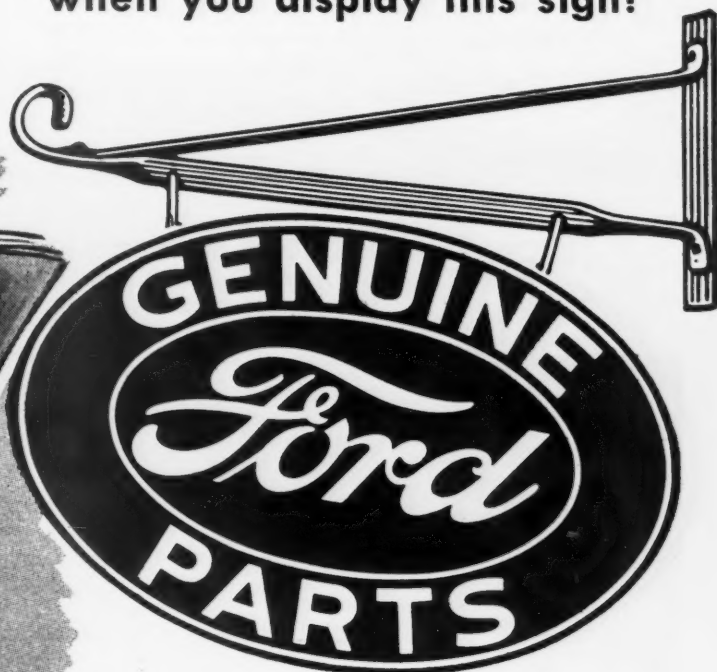
Ask your Jobber for
a FREE copy of our
latest Car Application
Wall Chart.

MR. INDEPENDENT

month after month business-
getting ads in LIFE, LOOK and
other national magazines

WORK FOR YOU

when you display this sign!



There's a Ford service salesman in the homes of your best customers *right now!* It's the big, 2-color advertisement shown at left and it packs plenty of "sell" for you as an independent service man if you're handling profitable Genuine Ford Parts.

Here's Why:

When you display the familiar blue and white Genuine Ford Parts sign, you can look forward to extra profit from more Ford service business. Naturally, Ford owners are interested in keeping their Fords all Ford with the parts that are made right to fit

right to last longer in Fords—
Genuine Ford Parts.

Get into this profit picture now! Don't let your Ford business go around the corner.

It will pay you to order Genuine Ford Parts today! Ask your Ford Dealer how you can get the blue and white Genuine Ford Parts sign.

FORD Division of FORD MOTOR COMPANY

ing evenly all the way around. Once again, the car owner will appreciate the salesman who puts his needs foremost in his mind rather than just any product which the shop happens to be "pushing" at that time.

Some motorists can use the strap type chain to best advantage, while others use nothing

more than a shovel and bucket of sand. Every driver has his own ideas about traction in the snow, but he should not be allowed to drive away still unprepared for the first slippery weather. That's doing him a disservice and possibly depriving the shop of a sale that might go to someone else on the first snowy day.

Test the battery and connections. Most car owners realize that cold weather is tough on batteries and they would rather be told in time that their's may let them down. If necessary recharge the battery. However, it is poor plicy to recommend replacing the battery until it is definitely deerminded that the unit is no longer suitable for service. Be sure that the generator and regulator are operating properly or the recharged or new battery will soon be dead.

The cooling system could be flushed before installing anti-freeze. If the shop is equipped with one of the modern flushing machines, the job almost sells itself. These units are designed to clean water passages in the radiator and block of rust, scale and scum in a short time, thus reducing the labor costs. At the same time they serve as merchandisers. Their attractive cabinets help to create customer curiosity which simplifies the selling problem.

Chemical type cleaners are also self merchandisers. Their manufacturers supply excellent promotional material which can be displayed and distributed to the customers.

Before installing the anti-freeze, check the radiator and heater hoses; an anti-freeze leak is expensive. Check the core carefully as seepage as more likely after heavy deposits of rust and scale have been removed.

Sleet and ice necessitate salting of roads and salt corrodes
(Continued on page 88)



BRUNNER
SINCE 1906

AIR helps you serve better

PLEASE SEND ME the 1951 Brunner Catalog which not only illustrates Brunner Air Compressors from 1/4 hp to 15 hp, but also contains considerable information on how to select capacity and provide an efficient, economical air supply to the various air powered tools and equipment so essential to building profits from automotive service.

Name _____

Company _____

Address _____

City and State _____

Now mail it to

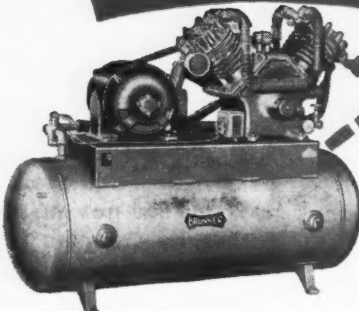
BRUNNER MANUFACTURING COMPANY
UTICA 1, NEW YORK, U. S. A.

Here's a coupon big enough to write in ... and sincerely, we suggest you use it!



AIR COMPRESSORS

...a size and type for every purpose



• SINGLE STAGE 1/4 HP. TO 2 HP.



• TWO STAGE 1 1/2 HP. TO 15 HP.



How many income producing services would you have to abandon if you had no compressed air? Brunner Air Compressors are noted for their dependability and long service life.



BUNNEY

"I don't come around to your office and tell you how to push a pencil, do I?"

Where Dependability Counts...

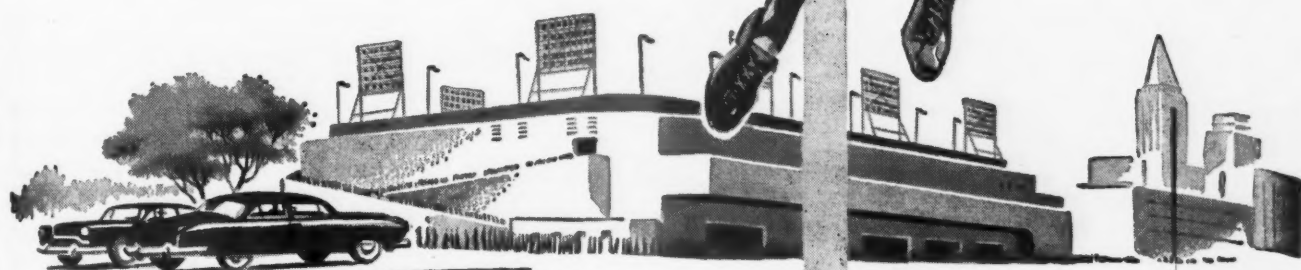
use **PACKARD** **BATTERY CABLES**

DEPENDABILITY is what is wanted in battery cables—the assurance that a touch of the starter means *quick, positive starting every time*—in any climate, and in any kind of weather.

That sort of dependability—day after day, year after year—has made Packard Battery Cables the standard of the industry . . . the *standard by which all other cables are judged*. And Packard Battery Cables are used as original equipment on more cars, trucks and buses than any other make.

Packard Battery Cables are full-size, full-weight . . . deliver a full measure of value. They offer a choice of LeadAlloy terminals or leaded brass terminals—and both deliver top performance.

So, where dependability counts, use Packard Battery Cables—use the cable with *proved performance, proved quality, proved superiority*.



Packard

REG. U.S. PAT. OFF.
TRADE MARK

Packard Electric Division, General Motors Corporation
Warren, Ohio

**FOREMOST BUILDER OF
AUTOMOTIVE AND AVIATION WIRING**

PACKARD PETE SAYS—

You're never in doubt with Packard Automotive Cables—for, when you use Packard, you use the finest. Packard Low Tension Cable with amazing "249 compound" insulation—Packard High Tension Cable in spools or packaged in sets—Packard Battery Cables with Lead-Alloy terminals or leaded brass terminals. All are nationally known, widely distributed. Standardize with Packard.

A
NEW KIND
OF DRIVING
EASE

No more unintentional rolling

... on hills ... in traffic ... at lights ... in parking



It's easier to drive any car when it's equipped with an AUTOSTOP. You stop the car with the brake, touch with your thumb the Magic Switch on the gearshift lever, and your car stays where it is until you step on the gas!

No more need for that tiny touch on the accelerator — or "slipping" the clutch — to keep the car from rolling back. No more s-t-r-e-t-c-h-i-n-g out for minutes at a time to hold the car from rolling either backward or forward. Let the AUTOSTOP take the strain!

A wonderfully simple accessory

The AUTOSTOP has four major parts: a cylinder added to the brake system, a relay usually mounted on the fire wall, an "on" switch on the gearshift lever that holds the car where you braked it to a stop, and an "off" switch on the throttle rod that automatically releases the brakes. It's easy to install and it's foolproof. Your customers will thank you for suggesting this new accessory at only \$24.95 plus your installation time.

Send for your free kit of AUTOSTOP selling helps. Here's what you get:

FREE SALES HELPS

1. Brilliant banner for showrooms and service floor.
2. 3-color illustrated folders for mailing or as counter give-away piece.
3. Mailing cards with a return card setting up a time to install an AUTOSTOP.
4. AUTOSTOP newspaper advertisements.
5. Price-discount sheet.
6. Installation instructions.

Wico has meant dependable
Automotive Accessories since 1897

WICO
Autostop

WICO ELECTRIC CO., 72 Phelon Ave., W. Springfield, Mass.

Please send me your kit, including free advertising materials on the AUTOSTOP.

NAME.....
(please print)

FIRM.....

STREET.....

CITY.....STATE.....

Winter Needs . . .

Continued from Page 86

undercar parts. Feel underneath the fenders to see if the car has been undercoated. If not, the customer should be approached on the subject. Undercoating sells well as a pre-winter service. Besides the protective qualities, it reduces rattles and road noise which is so noticeable when driving with the windows closed. Also, undercoating helps to seal out drafts and fumes. Most manufacturers of undercoating material provide dealers with demonstrators which are very convincing evidence of the need of undercoating.

Paint should be protected. The elements plus the hazard of the road salt make it a necessity to protect a car's finish. The number of improvements in the field of finish protective compounds make it easier for servicemen to sell this work as well as to perform the job. New developments in waxes, silicone polishes and other products, make it possible for a shop to offer anything from that inexpensive, long lasting polish job to a protective coating which will be good for six months or longer. Also, modern machines and spray equipment speed up the job and produce an excellent finish.

Driving with the windows closed, as motorists will do in cold weather, creates a particular hazard which repairmen should try to eliminate. This is the danger of exhaust system leakage. Fumes from the leaking exhaust pipe, muffler or tail pipe can work into a car to asphyxiate the driver. While the car is on the lift being lubricated, it only takes a few minutes to examine the exhaust system and make recommendations for necessary parts replacements.

Windshield wipers work overtime in winter. The blades may become dried out from exposure to the summer heat, and usually they are not tried until they are needed — when it may be too late. If the car is equipped with windshield washers, it is a good idea to test

(Continued on page 90)

Here It Is....

An Instrument of Modern Styling and Showmanship!

Edelmann's

TV*

"900 DELUXE"

FREEZ-D-TECTOR

The **ONLY**
Direct Reading
Instrument on the
Market

with the "ROLL-A-ROUND"
CORRECTION CHART!

A twist of the tuning
dial revolves the chart
and instantly brings the
proper anti-freeze solution
table into full view.

No guesswork!
No temperatures to remember!
Exact freezing point **INSTANTLY**
visible on the large TV screen!

Check these Outstanding Features

DIAL TUNING

A quick flick of the dial
"tunes in" desired correction table on TV screen.

"ROLL-A-ROUND" CORRECTION CHART

Displays the 4 basic anti-freeze solution tables, each
with a different background color for instant identification.

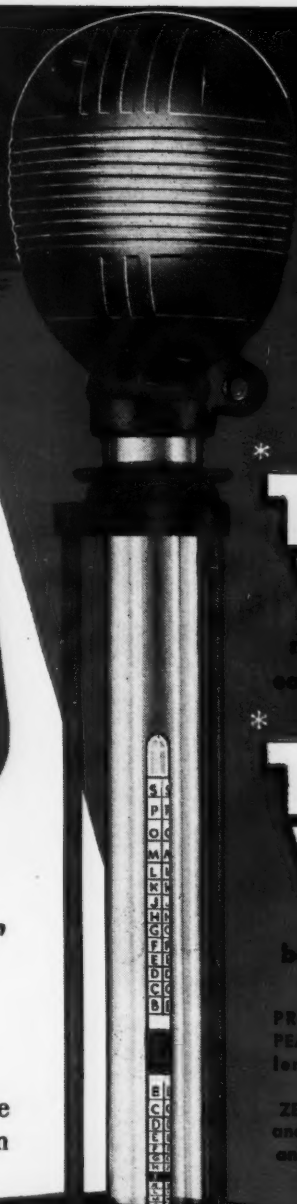
ANTI-FREEZE PROTECTION DATA

for all car models. First fill and refill information at a glance.

ORDER FROM YOUR JOBBER.

E. EDELMANN & CO.

2332 LOGAN BLVD., CHICAGO 47, ILLINOIS



TV

REMARKABLE

ABILITY

makes testing
easier and faster

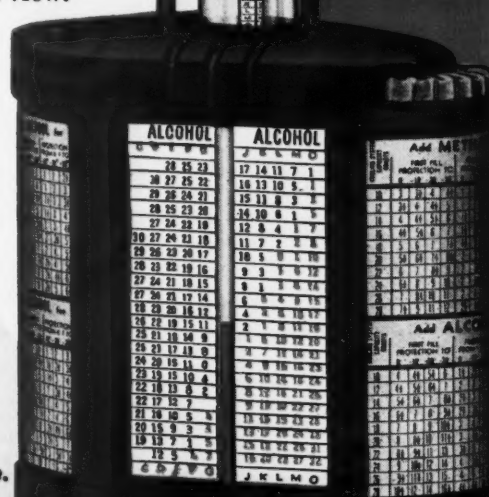
TV

TESTING

VERSATILITY

tests ALL
basic solutions

PRESTONE, ZEREX,
PEAK and other ethy-
lene glycols, TREK,
SUPER-PYRO,
ZERONE, NOR-WAY
and other methanols,
and ALL ALCOHOLS.



Winter Needs Continued from Page 88

them and to add anti-freeze solution which is available for this special use. On cars not so equipped, there's a good sales opportunity.

It goes without saying that heaters and defrosters should be tested before cold weather starts. This equipment cannot last indefinitely without service and motors, heater cores, tubing, and electri-

cal connections should be looked over carefully. Replacement heater motors are readily available and permit a shop to give the car owner new heater performance at a low cost when the old one is defective. Also, some cars are driving around without heaters in areas where a heater—and especially a defroster—are essential. Possibly no one has ever ap-

proached the owner on the subject of purchasing a unit, and the owner has never bothered about it himself. On a job like this, the early bird will catch the worm.

Throw-type floor mats make good winter sales items. They are attractive and very useful in weather which is so detrimental to the regular floor mats in a car. These rubber mats are easily removed and cleaned when dirt accumulates.

The important point to remember in pre-winter service is that a "special" should not be sold to a customer who does not need a product and, by the same token, a sale should not be lost because the item is not in stock—especially when the customer needs it. The man obviously would like to have a windshield wiper installed in his car—don't drop the sale because it is not in the shop—"get it from your jobber." Before the lubrication job is completed, the jobber may be able to have it in the hands of the mechanic and the installation can be made without lost time. Selling winter service can be an excellent opportunity to increase a shop's volume.

The ONLY completely automatic electronically controlled battery chargers are made by ... **FOX**

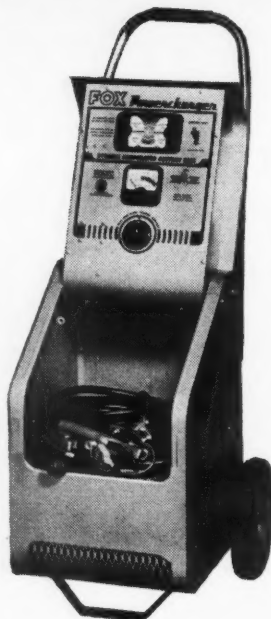
Fox Powerchargers bring a new, fool-proof simplicity to battery charging. Just connect Powercharger to battery, turn current on. That's all! No time clock to set, Powercharger does the rest. Perfect job, automatically, every time.

Safety Therment Control . . . a Fox "exclusive"

It detects and constantly reports battery condition to charger. If it is improperly used or accidentally removed, Powercharger cuts off automatically. Safety Therment, exclusive with Fox, has no moving parts, is virtually indestructible.

Other features:

Compensated Cut-Off . . . Dynamic Comparator Battery Test . . . Automatic Trouble Light . . . Fast or Slow Charging . . . Full Year's Guarantee.



This model and other Fox Powerchargers are available with conventional electric timer control if desired. Wire or write Dept. G for full details.

FOX

PRODUCTS COMPANY

PHILADELPHIA 41, PA., U. S. A.



"Dear, did you say to leave on a couple of inches or take off a couple?"

Fruehauf Trailer Net Shows Big Gain

Fruehauf Trailer Co. reports a net profit for the first six months of this year of \$3.651 million compared with \$2.655 million for the same period a year ago. Fruehauf currently is converting part of its facilities to defense work, which will amount to about 30 per cent of sales by October.

*you're
First
with*



CHEVROLET

*America's
finest
franchise!*



CHEVROLET DIVISION OF GENERAL MOTORS, DETROIT 2, MICHIGAN

Warner Brakes Continued from Page 44

and proceed to wrap itself into the drum. The band cannot revolve with the drum, since the opposite end of the band is held by the brake anchor which is mounted on the backing plate. Thus the greater the amount of current reaching the magnet, the greater will be the pressure exerted by the magnet on the band and the tighter the band

will wrap itself into the drum.

When the pressure has been built up, slippage will occur between the magnet and the armature thus preventing the brake from sliding the wheels under normal braking conditions. When an emergency stop is being made, however, the slippage between the magnet and the armature ceases, and the entire

unit (the magnet, armature, and wheel) will lock and slide the tire, providing the brake is of proper capacity for the load.

No brake adjustment is ever necessary because the magnet movement is sufficient to wear the brake lining down to the rivet heads. At this point the magnet comes against an automatic stop which prevents the rivet heads from scoring the drum.

One of the most common failures on electric brakes is the wiring. In checking it be sure that the electrical circuits of the vehicle are connected to the electrical circuit of the trailer. Remove either terminal from the controller and connect a low reading direct current ammeter. Set the load control at No. 4 position or 100 per cent. Start the vehicle motor and remember that the electric brakes use no more current than a tail light. The current is taken from the hot side of the starter and comes directly from the generator. To get an accurate test of the electrical circuit the motor must be running. Battery current is used only to supply power for parking purposes. In Figure 4, pull the control arm all the way on and check the reading. If the ammeter reading goes the wrong way, reverse the terminal wires immediately. Current of the wrong polarity in the ammeter for any length of time may damage it. At the controller, the ammeter reading must be the approximate sum of the averages for each brake in the system, shown in the table.

(Continued on page 94)



BEST IN THE BUSINESS
for correcting oil pumping
in badly worn cylinders

BURD
Super Hi-Speed
PISTON RINGS

DO THE JOB RIGHT!
Every day more and more mechanics are looking at engine overhauls this way: (1) Stop oil pumping in worn cylinders with Burd Super Hi-Speeds. (2) Go a step further and install Burd Valve Packing as added protection in the valve zone against oil and air leaks that disturb carburetion. It's certainly easy to follow this two-way oil control method. And it's mighty popular with mechanics who like to do the job right!

EXTRA INSURANCE
against costly leaks
from worn stems
and guides

BURD
VALVE PACKING

BURD PISTON RING COMPANY, ROCKFORD, ILL.
DIVISION OF
THE GABRIEL COMPANY

• PISTON RINGS
• VALVE GUIDES

BURD
AUTOMOTIVE
PRODUCTS

• VALVE PACKING
• HaDees CAR HEATERS

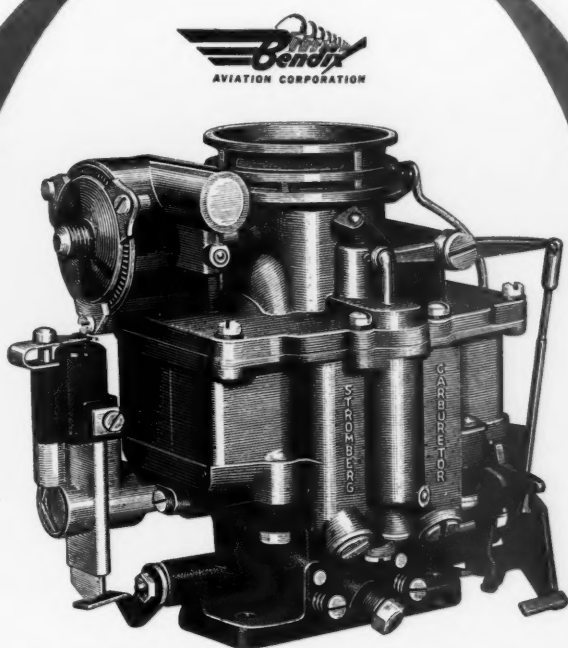
GET THEM FROM

YOUR JOBBER



STROMBERG

Better Performance for Your Customers, Better Business for You



Bendix SOUTH BEND
PRODUCTS DIVISION INDIANA
Standard Equipment Sales: Elmira, N. Y.

Satisfied customers are an old story to the men who sell and service Stromberg* Carburetors—the improved performance, gasoline economy and added service life always make a hit with motorists. But, equally as important are the many advantages Stromberg Carburetors offer you. The extra quality becomes *customer goodwill*. The scientific design and exclusive engineering features result in *customer confidence*. The mechanical simplicity makes it *easy* to do a good job every time.

*REG. U. S. PAT. OFF.

These Bendix signs stand for good business and for good business relations between factory, dealer and customer.



Replacement Carburetors
—Repair Kits



Original Equipment
on most cars



Hydrovac* Power Brake
—Trailer Power Braking
Systems



Cold Immersion Parts
Cleaner saves time and
money.

The quality CARBURETOR

Canadian Sales: Bendix-Eclipse of Canada, Ltd., Windsor, Ontario, Canada • Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

Warner Brakes Continued from Page 92

In Figure 5, disconnect either wire from the brake and connect it to the ammeter. Connect the other lead of the ammeter to the brake terminal from which the wire was disconnected onto wire system. If the reading at the controller or at the brakes is too low, check the complete electrical circuit, watching for loose connections at terminal and broken wires.

Make sure the wire is of the proper size, at least 12 gage for house trailers and 10 gage for truck trailers.

Should the ammeter go off the scale or be in excess of the recommendation given on the chart, it is an indication of a dead or partial short. The complaint of weak or intermittent brakes is usually the result of this condition in the

electrical circuit. All short circuits, stop lights, tail lights and so forth, must be excluded from the brake circuit.

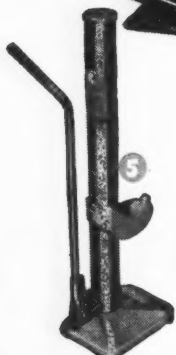
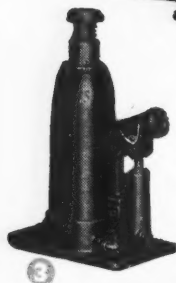
Check for loose wheel bearings. Before removing the hub, place a bar under the wheels and pry up and down. If the bearings have been properly adjusted the wheels should not be loose on the axle. Remove the hub assembly and check the wheel bearings for damage. Worn bearings should be replaced.

Check the drums. Make sure the drums are not out-of-round. This can best be done by using a dial indicator, which is very accurate, or with an inside caliper. The drums should not be out-of-round more than .010 inch. Out-of-round brakes cause erratic and grabbing brakes. The band size may be determined with the use of an outside caliper. With the inside caliper check the drums for oversize. An oversize drum may cause weak brakes. If the drum is more than $\frac{1}{8}$ inch greater in diameter than the band size, shim stock must be used under the lining to compensate for the larger drum bore.

Every jack you need

AJAX JACKS

from one dependable source



Just name your lifting job—you'll find the right answer in the Ajax "Coverage Line." Backed by 40 years of jack-building experience,

Ajax gives you speedy, safe, trouble-free lifting equipment for every need—with the quality and uniformity that eliminates confusion and maintenance expense. Whether you want fast, rugged hydraulic and mechanical service jacks—or sturdy, dependable, easy-selling passenger car and truck jacks—it pays to standardize with Ajax.

For full details on the complete Ajax line, see your Jobber or write for catalog.

1 Sturdy, All-Purpose Hydraulic and Mechanical Service Jacks

- 4-ton hydraulic—No. 2784
- 2-ton hydraulic—No. 2782
- 1½-ton "quick service"—No. 2767
- 1¼-ton mechanical—No. 2711

2 Adjustable Axle Supports—No. 2799

3 Portable Hydraulic Jacks—"Series 2900"

Five models (1½, 3, 5, 8 and 12 tons capacity) for trucks, buses and shop service.

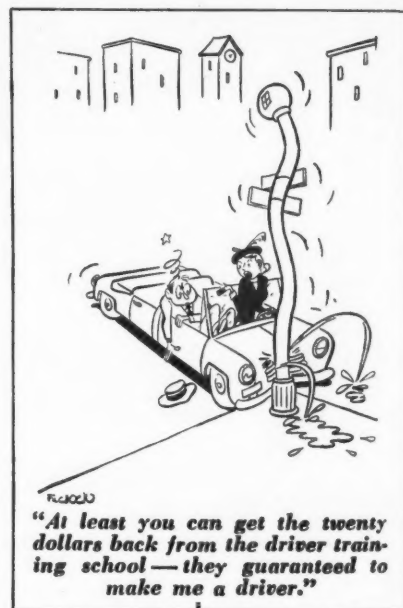
4 Passenger Car Scissors Jacks

- 1½-ton Master—No. 2805
- 1½-ton Utility—No. 2806

5 World's Finest Hydraulic Bumper Jack—No. 2903

AJAX AUTO PARTS COMPANY
RACINE, WISCONSIN


AJAX—"THE COVERAGE LINE" OF DELUXE QUALITY JACKS



Check the lining. Check for greasy or worn out lining. If either of these conditions exist, replace the lining. Use only Warner recommended lining because of the high radial pressure developed by electric brakes. A soft lining will not stand up and will damage the drum, causing the brakes to fade.

(Continued on page 96)

**CARS DON'T
HIBERNATE LIKE
BARS**



**GIVE YOUR CAR
THE WINTER CARE
IT DESERVES...**

- Anti-freeze
- Winter Lubricants
- Carburetor • Ignition
- Starting • Lighting
- Engine • Clutch
- Cooling & Exhaust Systems
- Brakes • Safety Devices

As advertised in...
POST and Collier's

Quality assured by the Nation's largest independent parts organization

NAPA
Assurance of Quality

Alfred A. P.C. American Automobile
BALANCE
Belden
BRIDGEPART
BUICK
CUMMINS
CELEBRON
DETROIT
DODGE
EASTMAN
ECHLIN
Federal
Alfred A. P.C.
MARTIN-SERVO
Mopar
Modac
Mopar
New Britain
Alfred A. P.C.
PACIFIC
PURITAN
RANTAN
Alfred A. P.C.
Soundmaster
STANDARD
Spicer
Thomson
UNITED
Alfred A. P.C.
WISCONSIN
ZOLLNER

make your shop
**Winter
Service
Headquarters**

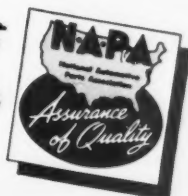
Ask your NAPA Jobber
for your copy of this
big, colorful NAPA poster

Here's one good way to sell your customers the kind of winter service that gives them *real* protection . . . and at the same time earns a real profit for you!

From your NAPA Jobber, get a copy of the NAPA Winter Service Poster shown above. Get it up in your shop where it can be seen by everyone who comes in for service. And remind those customers that you are featuring the *same* winter service they've seen in The Saturday Evening Post and in Collier's. Then sell the complete, car-saving checkup-changeover that the poster recommends.

N.A.P.A.

*is the largest Independent
Parts Organization in the
Automotive Industry!*



And remember: your NAPA Jobber has more than posters to help you do a real job on that winter service business. From him, you can get the genuine quality parts that your customers want. And when you deal with your NAPA Jobber, you can be sure of getting those parts when you need them. In other words . . . in any season . . . "Your NAPA Jobber is a Good Man to Know!"

USE COUPON BELOW TO ORDER YOUR POSTER

NATIONAL AUTOMOTIVE PARTS ASSOCIATION
Detroit 1, Michigan

Please ask my NAPA Jobber to bring me an NAPA Winter Service Poster.

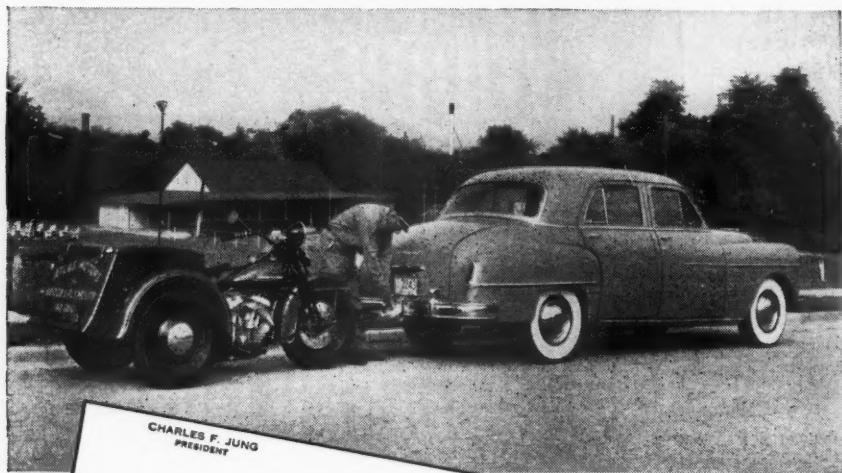
COMPANY _____

ADDRESS _____

CITY _____ STATE _____

"It adds to our shop revenue"

says **G. J. SCHUSTER**, Sales Manager
ATLAS MOTORS, INC., CINCINNATI



CHARLES F. JUNG
PRESIDENT

TELEPHONES
WOODBURN 6200-6201

ATLAS MOTORS, INC.
BOBCE AND FLYMOUTH CARS AND TRUCKS
SALES AND SERVICE
361 Montgomery Road
CINCINNATI 7, O.

WM. (BILL) RAPIEN
SERVICE MANAGER

Motorcycle Service Co.,
1924 Central Pkwy.,
Cincinnati, Ohio

Dear Ray,

Oct. 6, 1950

We are very pleased with our 1951-Harley. We are convinced that it adds considerably to our shop revenue since it puts us in a position to handle customers who cannot get to our service department. We service quite a few cars while their owners are working in machine shops near us. Without our Harley this business would be lost.

Yours truly,

Atlas Motors, Inc.,

G. J. Schuster
G. J. Schuster, Sales Manager.

GJS:ra



Send for this Servi-Car booklet

It tells you how Servi-Cars are used to keep shop work rolling on schedule, how they bring in new business, how they please customers and how they advertise you all over town. Send for your free copy today, or see your dealer.

HARLEY-DAVIDSON MOTOR CO., Dept. MA, MILWAUKEE 1, WISCONSIN

HARLEY-DAVIDSON

SERVI-CAR

SERVICE SELLS MORE SERVICE

Warner Brakes

Continued from Page 94

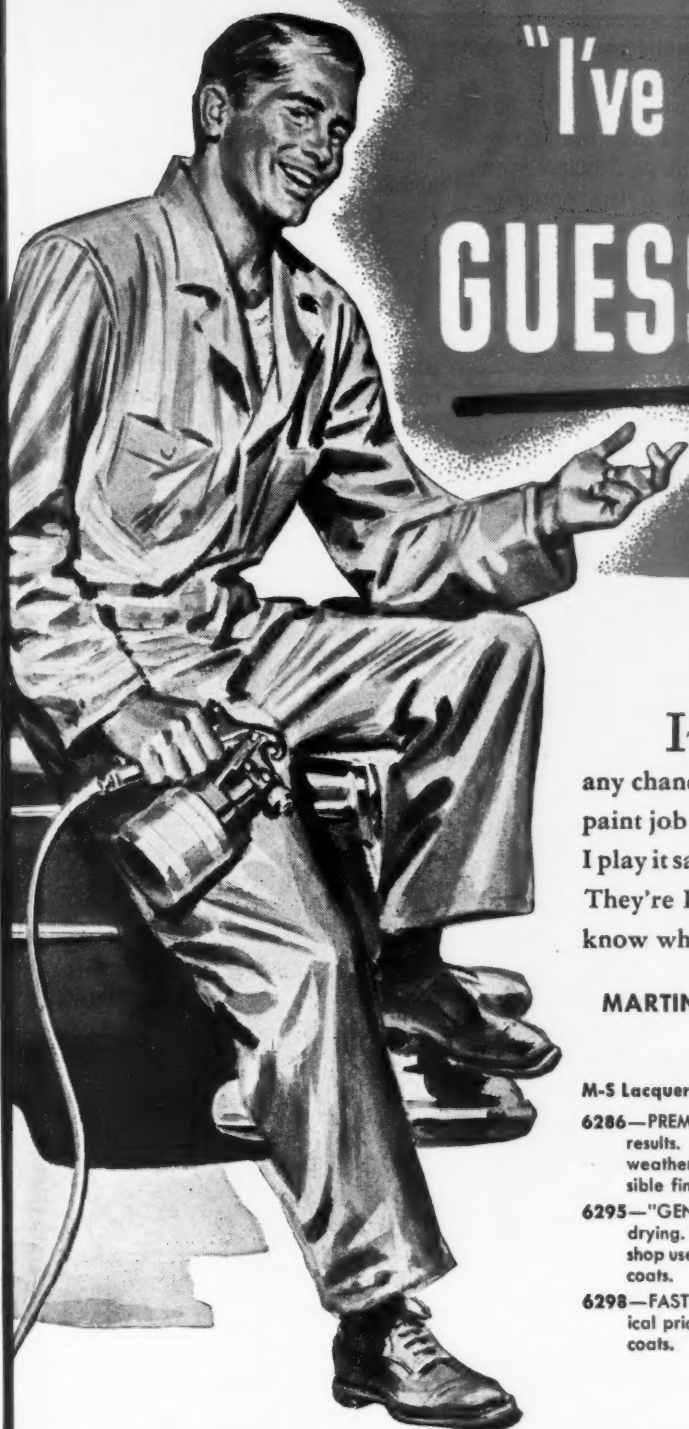
Check magnet and armature relationship. When the magnet is new (as in Fig. 8) it is so constructed that the poles or metal edges are .007 to .010 inch higher than the magnet facing. This permits metal to metal contact with the armature, which is necessary for proper functioning of the brake. The armature must remain in contact with the magnet at all times. As a result grooves are worn in the armature, as in Figure 9. This is a normal condition. If the poles of the magnet are worn down lower than the facing (as in Figure 10) then the magnet poles are no longer making contact on the magnet and



the unit should be replaced. Return the worn magnet and the armature to the factory where they will be checked. If the magnet facing becomes glazed then sandpaper or undercut facing material, 7 to 10 thousandths of an inch to remove the glaze. Under no circumstances should the poles of the magnet or the armature feed be machined in the field. If the magnet must be replaced, the armature must be replaced also. Never use an old armature with a new magnet. Check the armature depression with an armature gage (Fig. 11) which is simple to use. The armature should at all times have 5/32 inch depression when in contact with the magnet.

To determine the amount of the depression place the ends of the
(Continued on page 98)

"I've stopped playing GUESSING GAMES!"



IT means too much to me in dollars and cents to take any chances on having one of my customers dissatisfied with the paint job he gets in my shop. I don't guess or gamble on results. I play it safe by always using Martin-Senour thinners and reducers. They're **FACTORY-PACKAGED** and **FACTORY-SEALED** so I know what I'm getting and I know how it will perform.

MARTIN-SENOUR THINNERS AND REDUCERS GIVE YOU TOP PERFORMANCE, TWO-WAY PROTECTION

M-S Lacquer Thinners

6286—PREMIUM THINNER for top quality results. Recommended for hot, humid weather and when the smoothest possible finish is desired.

6295—"GENERAL USE" THINNER—medium drying. Recommended for all 'round shop use with lacquer colors and undercoats.

6298—FAST DRYING THINNER—economical price. Often preferred for undercoats.

M-S Synthol Reducers

8001—FAST DRY—Recommended for cold weather use and where conditions require fast drying.

8002—FLEET REDUCER—Slow drying. Recommended for fleet and commercial work or use in extremely hot and humid weather.

8004—SYMETRO-FLOW—Amazing flow without retarding dust free or drying time.



JOHN OWEL, HEAD PAINTER AT COSTELLO FORD SALES, INC.
KALAMAZOO, MICHIGAN, SAYS:

"The thinners and reducers you use can make the difference between a good job and a bad one. We want only good jobs to go out of our shop so we

don't take any chances. We use Martin-Senour factory-packaged and factory-sealed thinners and reducers." Be sure! Specify Martin-Senour!

Your N.A.P.A. Jobber has Martin-Senour Thinners and Reducers

MARTIN-SENOUR

2520 South Quarry Street, Chicago 8, Illinois



Factory Packaging . . . the only Positive Control from Factory to Finisher

Warner Brakes Continued from Page 96

gage against the magnet face and push the center rod of the gage against the bearing shoulder. Next tighten the screw on the frame and then push the collar down to the frame and tighten the screw on the collar.

With one man holding the armature disc out against the stops (Fig. 12), place at least three wedges, evenly spaced, under the

armature disc to force it out against the stops. Place the inner-bearing in the hub. Reverse the gage and now place the opposite ends of the gage against the armature face. Loosen the thumb screw on the gage frame only, and push the center rod against the bearing. Tighten the thumb screw on the gage frame.

The distance between the cross

piece and the collar indicates the amount of depression. It should be between $\frac{1}{8}$ inch and $\frac{3}{16}$ inch. If the depression is less than $\frac{1}{8}$ inch, place armature shims under the armature ring to bring it to $\frac{1}{8}$ inch. Use three shims evenly spaced in the $17\frac{1}{4}$ inch series brakes, and four shims evenly spaced in the $16\frac{1}{2}$ inch series brakes. If the depression is more than $\frac{3}{16}$ inch, place a hardened spacer which comes in various thicknesses between the inner bearing and the bearing shoulder. If the wedges have been used under the armature disc, be sure to remove them.

(N. B. The armature is labeled either right hand or left hand. And it must be installed accordingly.)

A Go-No-Go Gage (Fig. 13) is an easy way to measure armature depression. The small end of the pin should slip between the cross piece and the collar easily and the large end should not slip at all.

WHERE DOES WELL

DO BETTER..

SAFE LUBRICATION
PENNZOIL
THE Tough-Film
MOTOR OIL
100% PURE PENNSYLVANIA

You multiply the tremendous sales advantage of Pennzoil motor oil, a leader by itself, when you sell Pennzoil Cha-Z-Lube, the exclusive, patented chassis lubricant, and Pennzoil Hydra-Flo, Type "A" automatic transmission fluid.

All three give you a triple shot at Pennzoil customers who buy quality. Find out about profit possibilities you can't afford to miss . . . and about the entire Pennzoil line of top quality lubricants for every purpose. Contact your nearest Pennzoil distributor, or write to us for his name.

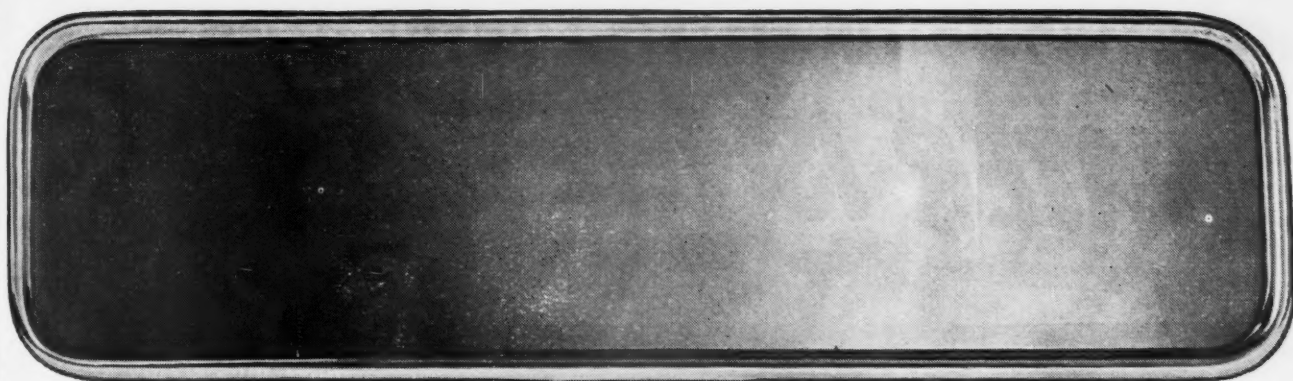


THE PENNZOIL COMPANY
Executive Offices
Oil City, Penna. • Los Angeles, Calif.



Ford to Sell Plant In N. Michigan

Ford is taking another step in its program of eliminating unprofitable outlying plants by negotiating the sale of its large Iron Mountain, Mich., industrial property. Major operation at the plant has been station wagon body assembly. The operation originally was based on the large supply of wood available locally, but since the trend from wood to steel bodies has proved unprofitable because of the required shipping of materials from Detroit to the factory and shipment of bodies back to Ford.

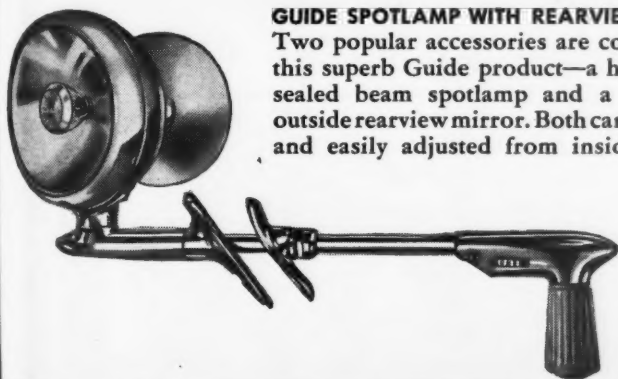


GLARE-PROOF
GUIDE

There's
PROFIT
in plain sight
...with
GUIDE

THE NEW GUIDE GLARE-PROOF REARVIEW MIRROR

Here's what you want . . . if you're in the market for a fast-selling accessory. The new Guide Glare-Proof Rearview Mirror is naturally a big seller because its advantages are obvious. The 8½-inch-long prismatic mirror gives an extra-wide view to the rear . . . eliminates the glare of headlights behind at the flip of a finger! Order a supply of Guide Glare-Proof Mirrors now. Available for most makes of cars.



GUIDE SPOTLAMP WITH REARVIEW MIRROR

Two popular accessories are combined in this superb Guide product—a high-quality sealed beam spotlamp and a handsome outside rearview mirror. Both can be quickly and easily adjusted from inside the car.

GUIDE MULTI-PURPOSE LAMP — This lamp gets its current from the cigarette lighter receptacle. Its 14-foot-long cord makes it a portable lamp that can be used in and all around a car. Provides a spare headlamp sealed unit—a real friend when needed.

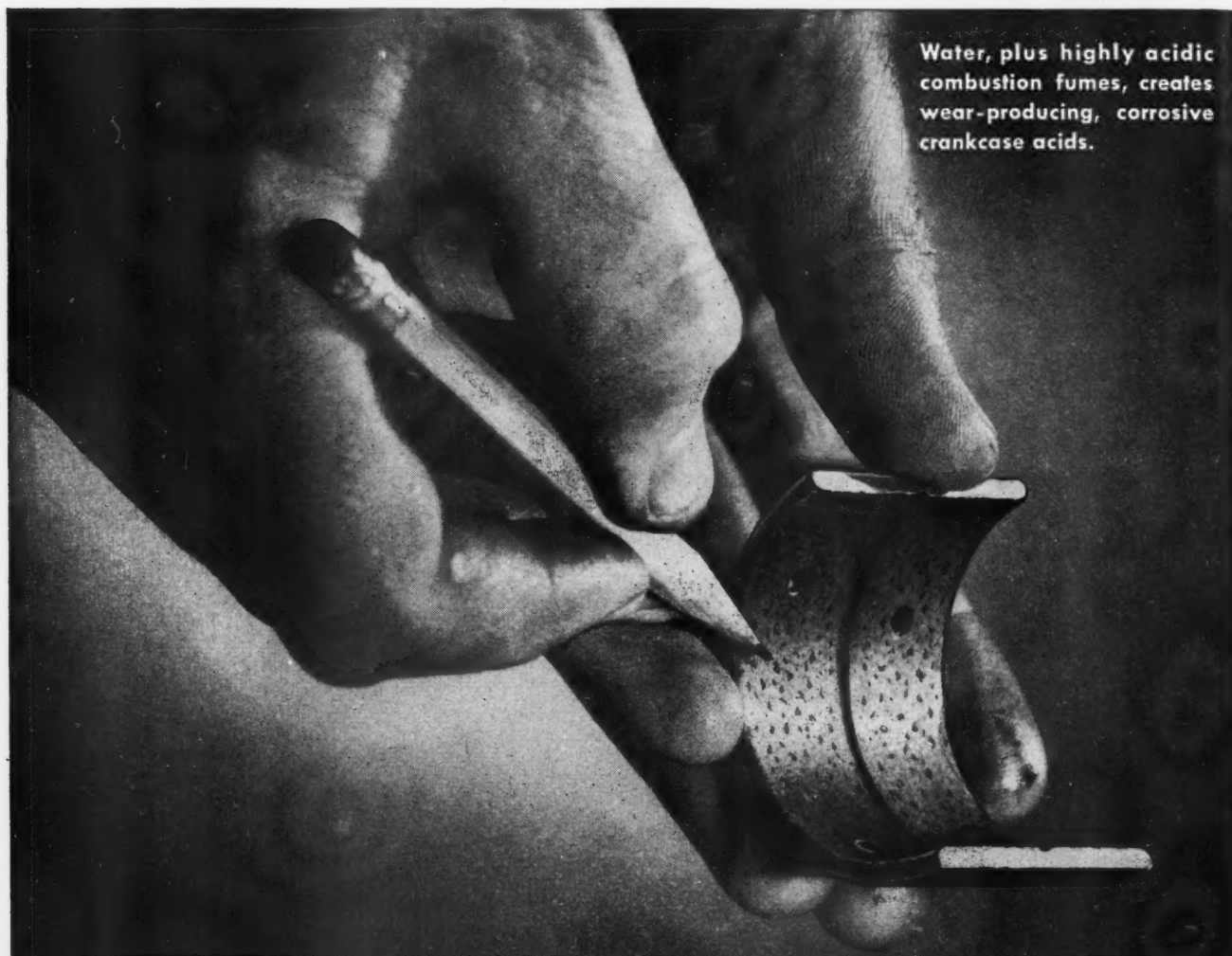


GUIDE LAMP—A UNITED MOTORS LINE
Available everywhere through
UNITED MOTORS DISTRIBUTORS

Guide LAMP

Division of General Motors
Anderson, Indiana

ACCORDING TO LUBRICATION AUTHORITIES . . . ***WATER IS THE SOURCE***



Water, plus highly acidic combustion fumes, creates wear-producing, corrosive crankcase acids.

WATER IS THE GREATEST ENEMY OF MOTOR OIL!



Water Causes Sludge—the most frequent source of engine operating difficulties. Water in the presence of soots, lead compounds, road dust and other solids creates a pasty, mayonnaise-like condition which is the starting point of sludge.

Water Destroys Detergency—the newest advancement in lubrication. According to well known authorities, water contamination in the oil can destroy certain of the detergent-dispersant actions of modern heavy duty oils.



OF CORROSIVE ACIDS IN THE OIL!

Exclusive Walker Patented Laminar Construction not only removes road dirt, metal and other abrasives . . . but provides extra protection against acid corrosion, too!

● According to leading lubrication authorities, it is now generally recognized that the chief cause of engine wear is corrosion and chemical attack by moisture and acids originating as "blow-by" products of combustion.

Highly corrosive combustion fumes upon contact with water form damaging "wear acids" which "blow-by" the pistons and accumulate within the engine and in the crankcase oil. Because these acids are water soluble, they are carried in the water contamination of the oil to all parts of the engine.

Of course, Walker Oil Filters protect the engine from road dirt, metal particles and other abrasives by fa-

mous "3-way filtration," but Walker Oil Filters do not stop there. Because of the unusual moisture absorbing ability of the particular wood cellulose fibres used, Walker Oil Filters provide extra protection from corrosive acid wear by absorbing the acids contained in the water selectively removed from the oil.

Walker Oil Filters recognize and act against the "triple threat" of water—the most objectionable of oil contaminants. By selectively removing water from the oil, along with ordinary solid contamination, Walker Oil Filters not only help reduce acid corrosion to a minimum but help prevent the formation of sludge by keeping the moisture content of the oil

below the sludge "danger zone" . . . and help preserve the detergent-dispersant action of modern heavy duty oils by absorbing water which can cause precipitation.

Here is a new concept of what an oil filter can and should do—*protection from all dangerous oil contaminants—including water*. Give your customers the benefits of this extra preventive service made possible by the exclusive Walker Patented Laminar Construction. There is a Walker Replacement Cartridge for most every make and model of filter.

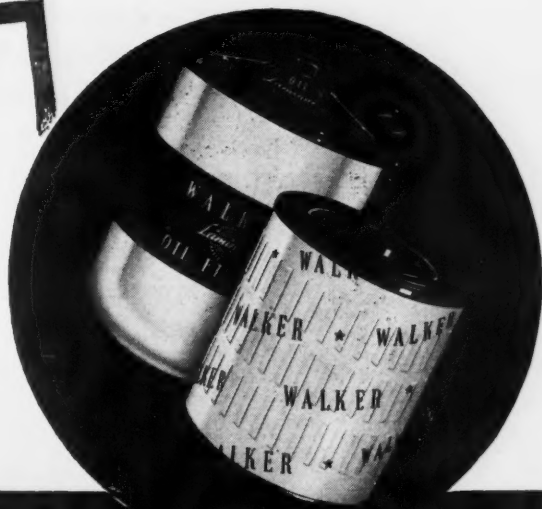


Walker carries the "Greatest Oil Filter Story Ever Told" to more than 14 million persons in these great national magazines!



WALKER OIL FILTERS

with patented *Laminar* construction



Small Orders Continued from Page 51

tomers was unprofitable. It cost this organization \$2.88 to pack, ship, bill and collect for any order, regardless of size, and the gross dollar margin earned on most orders received from 57.5 per cent of the customers was less than that.

Another company made a cost analysis to determine the mini-

mum size order which could be handled at a profit and found that 50 per cent were unprofitable. The cost of handling each order was \$3.38 if it came in by mail, if taken by a salesman at \$4.25 per call, the average cost, then the cost per order was \$7.63. The margin was 28 per cent of sales. Fifty per cent of all orders from sales-

men were for \$25 or less, \$10 or less on mail orders. Handling and selling costs exceeded the margin earned on them. Another company found that 25 per cent of its dollar volume came from orders under \$10 and that it lost 44 per cent on sales from this business. A Small Order Loss Survey made not long ago showed that distributors broke even or lost money on 30.1 per cent of the dollar sales volume.



31" off the ground, and not a quiver!
SAF-LIFT has double-support
where it counts most!

NO
WOBBLE
on hillsides

Saf-Lift's unique two-legged design assures a safe, steady foundation. High lifting range of 31" is ample for lowest-slung cars. Folds into small package that takes up minimum of space. Its safety and ease of operation make Saf-Lift the car owners' "dream jack"—when they see it, they want it! Write for latest catalog. Auto Specialties Mfg. Co., Dept. MA-10, St. Joseph, Michigan.

AUSCO SAF-LIFT
BUMPER JACK
models for car owner and service use

Y5659



This condition is not a product of our inflationary cycle or war economy. It has existed a long time. In the first distribution cost study made by the Bureau of Foreign and Domestic Commerce in 1927, it was found that a large proportion of the sales of a hardware wholesaler was handled at a loss. In this case, the wholesaler eliminated about 50 per cent of the number of his customers and dropped about 30 per cent of the number of items carried in stock. In spite of an appreciable decline in sales volume, in the first year after this policy was put into effect, the following results were obtained: The operating expenses were reduced significantly—four percentage points below the average expense ratio for the trade as a whole—prices to customers were lowered, and dollar net profits were three times as great as average annual earnings had been previously. Research discloses that the picture hasn't changed today, in fact, because of increased costs and skyhigh taxes, the situation is far more serious now and all auto-

(Continued on page 106)

KELSEY-HAYES POWER BRAKING

ASSURES *Feather touch* CONTROL



Today's most advanced development in power braking is Kelsey-Hayes amazing "VACDRAULIC", forerunner of even more startling Kelsey-Hayes developments for tomorrow's motor cars.

Kelsey-Hayes "Vacdraulic" is the only unit to power the brake action instantaneously, with perfect "feather-touch" control, assuring perfect "pedal feel" in direct proportion to the pressure applied. Kelsey-Hayes "Vacdraulic" cuts foot pressure by as much as two-thirds that required for ordinary brakes!

"Vacdraulic", the only unit utilizing complete hydraulic control with a fixed reaction ratio, insures perfect "feather-touch" control at all pressures.

NOW! . . . Kelsey-Hayes "Vacdraulic" power brakes are standard equipment on over 100,000 cars of one of the world's leading automotive manufacturers. (Kelsey-Hayes engineers will gladly consult with you on the superior advantages of VACDRAULIC POWER BRAKES as original equipment on your new cars.)

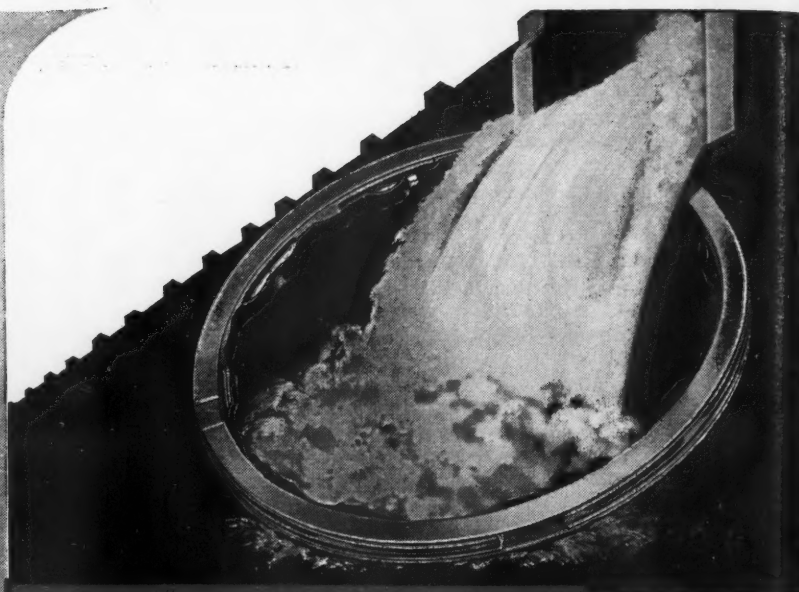


ASSURES PROVEN PRODUCTS AT
KELSEY-HAYES WHEEL COMPANY
DETROIT 32, MICHIGAN



PRODUCTS: Wheels—Hub and Drum Assemblies—Brakes—Vacuum Brake Power Units—for Passenger Cars, Trucks, Buses—Electric Brakes for House Trailers and Light Commercial Trailers—Wheels, Hubs, Axles, Parts for Farm Implements.
PLANTS: Kelsey-Hayes Plants in Michigan (4); McKeesport, Pa.; Los Angeles, Calif.; Davenport, Iowa; Windsor, Ontario, Canada.

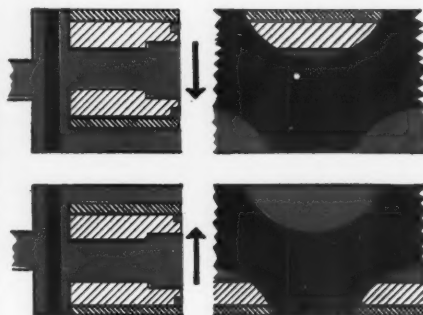
1st



LEAK-PROOF OIL RING

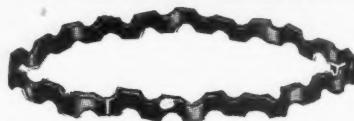
GREATER OIL CONTROL CAPACITY

Here are two drawings, the two at the left are cross-sections of the ring and expander; the two at the right are straight-on views looking from the inside of the ring and expander to the outside. The red indicates the flow of oil.



A piston ring never stands still while a motor is in operation. On the up stroke of the piston the ring is at the bottom of the ring groove. On the downstroke, the ring is at the top of the ring groove. The oil behind the ring splashes from top to bottom. The arcs cut in the expander behind the Leak-Proof ring are on both top and bottom. Thus there is a greater and clearer flow of oil through the extra wide slots in the ring, through the top and bottom openings in the expander. The result is greater oil control capacity.

THE HIGH TENSION REVERSE LOOP EXPANDER



The High Tension Reverse Loop Expander in the Oil ring has all the advantages of the Compression Ring Expander.

1. Resists breaking.
2. Retains tension—does not "set."
3. Compensates for variations in ring groove depths.
4. Exerts more equal radial tension.



A series of circular arc sections are cut out of both sides of the expander at mathematically calculated intervals. High-Pressure ears are formed between these cutout arcs allowing independent pressure against the steel segments. This construction also gives the expander a uniform spring section all around its circumference.

McQUAY-NORRIS MANUFACTURING CO.

Yours for the Asking



AD-A-SHIRT

**IT WORKS FOR YOU WHILE
YOU WORK**

It tells your customer what you sell, arouses his curiosity and gives you the opening you need.

A genuine Mark Twain, gray, light-weight, cotton broad-cloth shirt. It is fully preshrunk, registered and guaranteed. Available in four sizes: small, medium, large and extra large. It is the same as shirts sold by retailers at from \$3.00 to \$3.50 each.

Yours for the Asking

Place your order for four sets of LEAK-PROOF Piston Rings of your selection. Ask your jobber for one of these fine shirts. Sign the special order form and the shirt will be mailed direct to you. You pay your regular price for the LEAK-PROOF sets with nothing extra for the shirts. How much simpler could a plan be?

LEAK-PROOF PISTON RINGS



McQUAY-NORRIS MFG. CO. St. Louis 10, Mo.

Please send full details on "AD-A-SHIRT" to:

Name _____

Address _____

City _____ Zone _____ State _____

Small Orders Continued from Page 102

motive businessmen should attempt a practical solution in order to maintain reasonable profits.

Modern transportation is partly responsible for the small order. Years ago when the convivial salesman with the fat cigars and Jim Brady paunch roamed the hinterlands, he showed up only once or twice a year. Jobbers and

retailers bought heavily then because they knew they could not get re-orders in a hurry. Today, motor truck, fast freight and plane rush goods to purchasers in a jiffy. So many retailers assume that it is unwise to tie up cash in big purchases when they can buy from hand-to-mouth and satisfy their trade demands just as well. But

the research done on the small order problem shows this to be a fallacy, that the retailer, also the jobber, often loses more than the profit on a small order through handling expense.

The seller should use functional costing to determine the profitability of an order, breaking down the operations to the function, determining the cost of the function, then dividing this total by the number of units handled to get the unit cost of each function. The functional costing table shown details the unit of measurement, which will vary according to the organization. It shows the many functions required to process an order sent to a producer or distributor and why small orders are loss-orders. Do not assume, as too many businessmen do, that if the cost of handling an order is \$5, that there is a profit on all orders over \$5. The borderline between the profit and unprofitable order depends upon the margin earned. Before management can make a profit on a small order, the margin or gross profit must exceed the handling and selling cost, including all the paperwork attendant thereto. In simplified form, this is how to figure it:

Order received totals . . .	\$5.00
Margin earned on order 1.50—30%	
Cost of goods sold	\$3.50
Cost of handling and selling	2.45
Total cost of order to management	\$5.95
Received for order	5.00
Loss on order . . . . .	.95 cents

Orders of this type are being filled at a loss by many suppliers unknown to them because they do not cost their sales.

Cost studies of internal distributive functions, such as storage, order assembly, order routine, receiving and shipping, have shown that there are large areas for improvement. The one-story streamlined warehouse in the wholesale field is one example of how efficiency can be improved and distribution costs reduced. Orders are handled on the assembly line principle, mechanical tabulating equipment prepares invoices, makes sales analyses and records the perpetual inventory.



**CONNECTING ROD SERVICE
YOU CAN DEPEND ON!**

The reconditioned or rebabbitted rods supplied by your Federal-Mogul jobber are processed by the best facilities in the industry. No waiting, no question that it's the right number. You get what you want—and you get it *from stock*—at your Federal-Mogul jobber's!

FEDERAL-MOGUL SERVICE
(Division of Federal-Mogul Corp.)
DETROIT 13, MICHIGAN

Ask Your **FEDERAL-MOGUL** *Jobber*

"Best buy in tools...and

no doubt about it!"

"We're strong for Snap-on Tools in this shop," says veteran mechanic Harold A. Lister. And General Manager Joseph L. Enzina of Klein-Weil Chevrolet, Buffalo, adds: "Snap-ons, backed by Snap-on Service, offer the best buy in tools...no doubt about it!"

Snap-on^{*} Tools

backed by...

In thousands of busy and prosperous service shops such as Klein-Weil Chevrolet, you'll find this same strong preference for "Snap-on Tools backed by Snap-on Service." Because the whole Snap-on Idea "makes sense" ... top-quality *automotive* tools brought right into the shop, right to the bench, so a man can select and try them right then and there, on the job! No wasted time. No guesswork. No wrong choices. No wondering about quality. The Snap-on line of more than 4,000 tools is described in the big 104-page catalog. Ask your Snap-on Man for a copy, or write —



SNAP-ON TOOLS CORPORATION

8036-J 28th Avenue
Kenosha, Wisconsin

*Snap-on is the trademark of Snap-on Tools Corporation



Frank Palmitier
Oklahoma City Branch



C. Roy Fagan
Pittsburgh Branch

Snap-on^{*} Service

delivered by 800 men like these ...
trained, friendly, helpful ... calling regularly on shops from coast to coast.



Caesar Izzo
Brooklyn Branch



E. E. Hunsinger
Detroit Branch



Lister Horn
Richmond Branch



Mitch Rumbly
Philadelphia Branch



Harry P. Becnel
New Orleans Branch



Emil Roll
Regina Branch



Floyd Stetler
San Francisco Branch

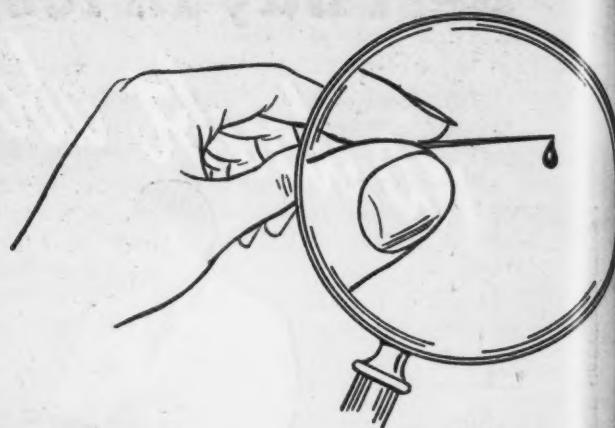


R. O. Bozeman
Dallas Branch



Walter Kuzik
Cleveland Branch

6 Reasons Why Every Carburetor Needs **GUMOUT** "on-the-engine" Carburetor Cleaning



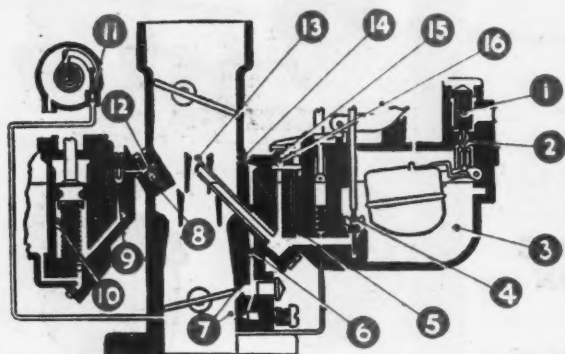
1

A SPECK OF GUM CAN STOP A CAR

Carburetor jet openings are calibrated in ten-thousandths of an inch. A particle of gum, sludge, muck, dirt or corrosion, no thicker than an eyelash, can reduce jet openings by 25%. This restricts the flow of gas by that much or more, and upsets air-fuel mixtures. **GUMOUT** removes all gum and other foreign matter.

2

CARBURETOR PASSPORTS MUST BE KEPT CLEAN



Every carburetor has 16 tiny passages, vents, screens through which gas and/or air must flow. The slightest obstruction in these "passports" will reduce the power, efficiency, economy and performance of the car. Carburetors should be cleaned frequently with **GUMOUT** and always at the first sign of engine trouble... *before* looking for trouble elsewhere.

3

16 TO 1 IT'S GASOLINE GUM

Gum, sludge and other obstructions in any of the 16 Carburetor Passports can cause the following "motor miseries."

"PASSPORTS"

DIAGNOSIS

- | | |
|---------------------------------|--------------------------------------|
| 1 Screen | Insufficient Gas, Hard Starts |
| 2 Needle Valve & Seat | Flooding or No Gas |
| 3 Float & Bowl Assembly | Bucking, High Gas Consumption |
| 4 Metering System | Stalling, Sluggishness |
| 5 Low Speed Jet | Stalling, Rough Idle |
| 6 Low Speed Passages | Low Speed Bucking, Stalling |
| 7 Idle Ports | Stalling, Wasted Gas, Rough Idle |
| 8 Venturi, Intake Manifold | Low Vacuum, Hard Starts |
| 9 Accelerator Passages, Valves | Slow Pick-Up, Bucking, Flat Spots |
| 10 Accelerator Piston, Cylinder | Flat Spots, Slow Pick-Up |
| 11 Automatic Choke System | Hard Starts, Wasted Gas, Stalling |
| 12 Accelerator Pump Jet | Flat Spots, Slow Pick-Up |
| 13 Hi-Speed Jets and Nozzles | Low Top Speed, Popping |
| 14 Air Vents & Bleeds | Wasted Gas, Poor Idle, Hard Starts |
| 15 Economizer System | Stalling, Sluggishness, Rough Engine |
| 16 Anti-Percolator Passages | Vapor Lock, Engine Failure |

When in doubt, use **GUMOUT**



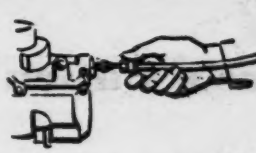
4

GUMOUT IS FORCED-FLOW CLEANING

GUMOUT, like gasoline, is forced under pressure through all *internal* carburetor passages. It completely cleans *every* passage through which gas must flow. It's the *only* way that a carburetor can be cleaned without removing it from the engine.



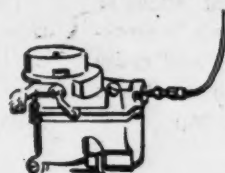
1. Disconnect and plug fuel line.



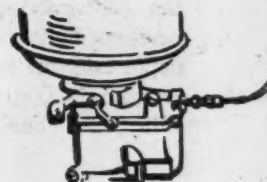
2. Attach GUMOUT tube to carburetor.



3. Suspend GUMOUT can above engine.



4. Run engine at all speeds.



5. Remove GUMOUT. Reconnect fuel line. Clean outside of carburetor with GUMOUT.

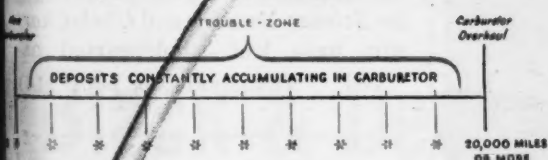
5

GUMOUT IS A 20-MINUTE JOB

Anyone can clean carburetors with GUMOUT in 20 minutes at a cost of only 90c per job. One case of GUMOUT and the GUMOUTER (total cost \$24.55) will put you in the carburetor cleaning business at a 195% profit even if you charge only \$3.00 per job.

6

GUMOUT IS A REGULAR ROUTINE SERVICE

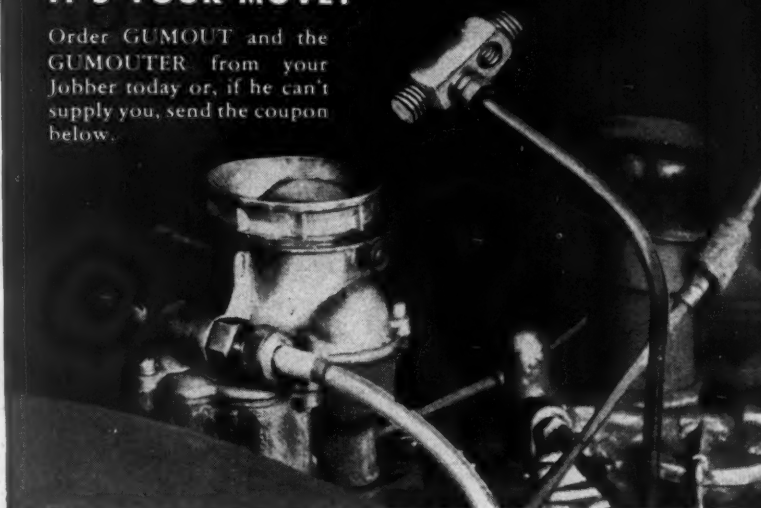


During these periods, deposits clog up carburetor openings and cause troubles that are frequently blamed on other conditions.

GUMOUT is not a complicated carburetor overhaul job but a cleaning service that should be performed periodically... and with every tune-up job. Carburetors must be kept clean—but seldom are. Offer this new and needed "on-the-engine" carburetor cleaning service to your customers!

IT'S YOUR MOVE!

Order GUMOUT and the GUMOUTER from your Jobber today or, if he can't supply you, send the coupon below.



GUMOUT DIVISION,
Pennsylvania Refining Company,
2686 Lisbon Road, Cleveland 4, Ohio

MA

Please send

-cases of GUMOUT (24 pints each) at \$21.60 per case.
-1-gallon cans of GUMOUT at \$6.45 each
-GUMOUTERS at \$2.95 each
-additional information

Name

Address

City Zone State

Jobber's Name

PENNSYLVANIA REFINING COMPANY
CLEVELAND 4, OHIO

Butler, Pennsylvania Edgewater, New Jersey

Refiners of Penn Drake Products since 1880

There's Punch Behind It

Continued from Page 41

And get an official certificate of membership, plus a three-color decalcomania of the "Care Will Save Your Car" emblem for shop display, plus a catalog describing all the cooperative material such as posters, bulletin "Specials," newspaper ads, mailing cards and radio commercials, all tied into the "Care Will Save Your Car" slogan.

Did you know that the campaign is a non-profit plan being promoted by the Automotive Advertisers Council in the interest of the entire automotive service industry?

Did you know that the Automotive Advertisers Council is a group of highly skilled advertising men who know your selling problems and who have designed this cam-

paign to help you?

The campaign has a vigorous punch in a widespread publicity program supported by national consumer magazines. One of the best examples is *Collier's*, whose Preventive Service publicity started in 1939, and which is now tied into the "Care Will Save Your Car" program. Here *Collier's* tells its millions of car owner readers how to take care of their cars. This month, the Oct. 27 issue of *Collier's* will carry another important message on Car Care, with twenty-seven advertisers of automotive products supporting the theme.

A national farm publication—*Farm Journal*—is promoting automotive vehicle care and maintenance by using two and three page editorial stories with good dealer tie-in material. Since last July, their "Keep 'Em Rolling" stories have carried the "Care Will Save Your Car" symbol to the 2,850,000 farmers who read *Farm Journal*.

Mechanix Illustrated has a special department on Car Care and its one million readers spot the "Care Will Save Your Car" emblem each month.

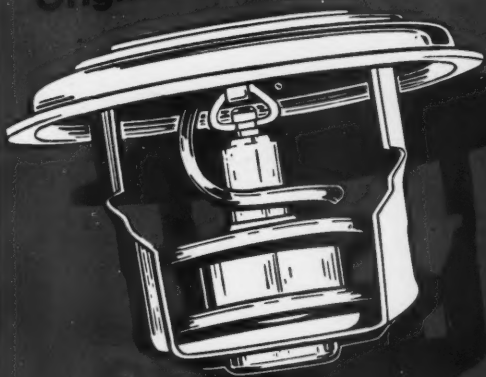
The *Saturday Evening Post* is helping to put across the campaign, not only by recognizing the "Care Will Save Your Car" program, but by using the idea in its promotional campaigns.

There are others like the American Automobile Association, *Popular Science Monthly* and *Chek-Chart* who have lent wholehearted na-

(Continued on page 114)

You're the Doctor...

In Restoring an Engine's
Original Smooth Performance



Make Thermostat Replacement

with **DOLE DV's**

Part of Your Prescription!

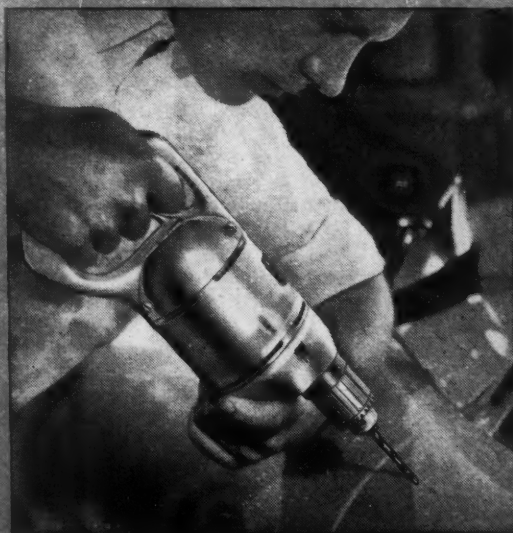
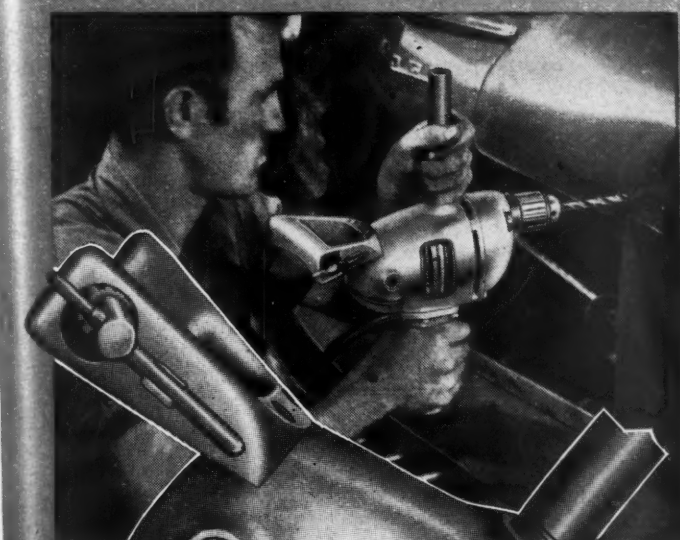
Prescribe a new Dole replacement thermostat in every cooling system check-up. Do this consistently and take your profit—but also earn the thanks of your customers. Dole DV's—positive in their temperature control—are designed especially to handle the higher pressures of modern sealed cooling systems. They contribute to top performance and quicker warm up... save gas, oil and motor wear.

CONTROL
WITH
DOLE

THE DOLE VALVE COMPANY

1901-1941 Carroll Ave., Chicago 12, Illinois
Representatives in Principal Cities

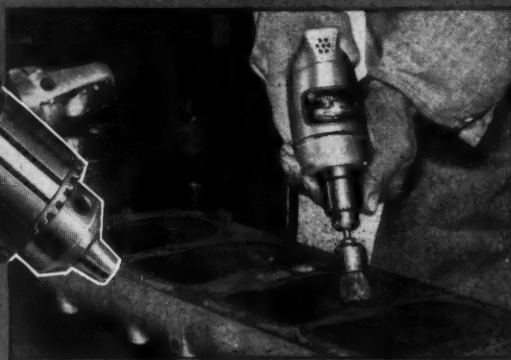




ACCESSORY INSTALLATION—Drilling holes in cowl, bulkhead, instrument panel for windshield washers; heater installation; holes in steering column for directional signals; spotlights, mirrors, inside visors, special switches, etc.



BODY REPAIRS—Drilling holes in wheel housing when replacing fender; holes for attaching new body molding; holes in hanger straps and frame for mounting new muffler; bumper mounting holes in frame on repaired wreck job; drilling out broken or rusted studs and bolts, etc.



ENGINE REPAIRS—Glaze breaking; cleaning or enlarging oil return holes; cleaning valve guides, heads, piston tops, blocks; drilling holes for repair of cracked heads and blocks; lining up holes in core and shell brackets when replacing radiator core, etc.

Black & Decker Drills are versatile, practical, profitable All Over Your Shop!

EVEN this brief sample of uses makes it plain why electric drills are worth their weight in gold in your shop. And remember: Black & Decker is your *best* buy in electric drills! That's because you get powerful B&D-built electric motors—full ball-bearing construction—extra-tough gears, shafts and chuck spindles—husky housings, streamlined design, perfect balance—and a choice of 25 models, 1/4" to 1 1/4" capacity in steel; choice of speed, power and price in most capacities. See your

nearby B&D Distributor for demonstrations. Write for free catalog of over 100 Electric Tools to: THE BLACK & DECKER MFG. Co., 627 Pennsylvania Ave., Towson 4, Md.





FARM JOURNAL

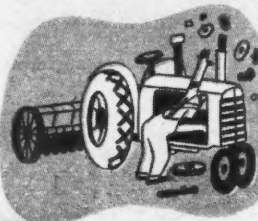
11 EDITORIAL PAGES...

That's how intensively Farm Journal has been promoting better maintenance of automotive equipment—selling your products and services to the biggest automotive market in America with a consistent barrage of "Keep 'Em Rolling" editorial features. And there's more to come!

Get Set N



You'll sleep better next spring if you put your machinery in shape in February. A few hours now may save days when the big push is on.



Reminders... So Breakdowns Won't Sneak Up on You

Dark Winter. It's a good job of checking your power plant and cooling system. The crop year, too. Check the radiator and water pump. Make sure the engine is in good shape.

Flame. Well, you should take care of your engine. Get the spark plugs checked. Check the battery, and tell the dealer for more battery, more oil, and more oil.

Check the battery. It's a good idea to check the battery. It's a good idea to check the battery. It's a good idea to check the battery.

Drift and Puncture. Put on your seat belt. It's a good idea to check the battery. It's a good idea to check the battery. It's a good idea to check the battery.

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How to take better

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These tips

Broken part just when you need it most. Make sure the tractor is in good shape.

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YOUR BEST SALESMAN 30,000,000 SALES CALLS

And where were these calls made? Right where you want them made... in the territory from which most automotive dealers and distributors get most of their business. Over 80 percent of the dealers and over 70 percent of the repair shops are located in towns of 25,000 and under. These men say they get most of their business from out-

of-town customers. And among the best customers of the dealers, Farm Journal provides coverage like a newspaper.

Manufacturers want action at the dealer level. They want to help dealers sell products and services. The best way to do this according to the dealers themselves is with inter-

OUR SECOND YEAR OF "KEEP 'EM ROLLING" EDITORIAL PROMOTION OF AUTOMOTIVE

If you need more information on the market, the program, or Farm Journal itself, write Dealer Service Department, Farm Journal, Philadelphia 5, Pa.

How to head off breakdowns



IF THERE'S anything more exasperating than a breakdown right smack in the middle of a July rush job, what is it?

With a little care, it doesn't need to happen to you. In the last several months, *Farm Journal* has been giving you seasonal tips on how to keep your car, truck, tractor, and implements rolling.

Here are some more practical ideas that could save you hours and headaches, not to mention a good bit of money.

How's the Tractor Doing?

Here's a quick, easy way to spot leaks around the cylinder head gasket. Remove the fan belt so that the water pump isn't working. Then fill the radiator as full as you can, and leave off the cap. With the engine running, hit the throttle hard and watch for air bubbles. If you see bubbles, it's a good sign that there is leakage around the cylinder head gasket.

a note to buy another, so as to have a spare belt on hand.

Here's a good use for leaky radiator hose. Fred Cray, Sanilac County, Mich., slips a piece of old hose over the tractor's power take-off shaft. The hose keeps the splines clean and shiny, and the power take-off is always easy to couple up.

You wouldn't think of running with the radiator shutter half-closed on these hot summer days. Yet that's exactly what happens when the radiator fins fill up with chaff, bugs, and dirt. Blow out the fins with compressed air or a water hose. As simple a thing as this may save you a cracked engine block.

Chances are the engine could stand a tuning-up. Next time rain keeps you out of the field, take a few minutes to clean and adjust the distributor points and the spark plugs. A quick check on the timing might surprise you. Even a little bit of extra power is worth having.

► Try this test on the carburetor: With

Extra Zing for the Work

It's a mighty spare. Here at equipment gold.

POETS for the farm showing most. But few new life.

HAVE YOU HEARD?

- Your biggest salesman in the biggest automotive market in America is *Farm Journal*.
- Dealers want local coverage. You get coverage of a dealer's best out-of-town customers like a local newspaper when you advertise in *Farm Journal*.
- Intensive editorial support promoting better automotive maintenance is exclusive with *Farm Journal* in America's biggest automotive market.
- You get more business when your products are advertised in *Farm Journal*.

MADE OVER FOR YOU THIS YEAR

ers of the advertising. That's what *Farm Journal* delivers. So make sure products you sell are advertised in *Farm Journal*. Make sure your tie-in material is put to good use. Make sure you take every advantage of the sales promotion opportunities presented by the "Keep 'Em Rolling" editorial help which *Farm Journal*—exclusively—provides in America's biggest automotive market.

PROMOTE PRODUCTS AND SERVICES BEGINS OCTOBER 16



There's Punch Behind It

Continued from Page 110

tional publicity to this—your personal, local advertising campaign. (You can make it yours for a buck!)

Walt Kirkpatrick, of Wilkening, who is chairman of the Committee on Industry-Wide Advertising for the non-profit Automotive Advertisers Council, once said: "All national advertising is local." By that

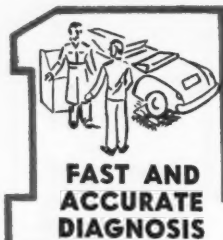
he meant that nothing is sold nationally. The sale is made between you and the man who has just left his car with you for repairs.

Well, then, did you know that the "Care Will Save Your Car" program is your newest tool for unscrewing (Printer: Get that right, please!) the biggest problem facing you today? That problem: How

to capitalize on a big publicity campaign to bring old and new customers to you. *You can!*

To get started write to Automotive Advertisers Council, send one dollar for enrollment in the National "Care Will Save Your Car" Institute, 105 Jennings Building, New Castle, Ind. Tell them Frank Tighe of MOTOR AGE sent you.

How dealers use the *Clayton* DYNAMOMETER 3-Way PROFIT PLAN



MAIL
THIS
COUPON
for the
full story

CLAYTON MANUFACTURING CO. MA-10
BOX 550, EL MONTE, CALIF.

Send us FREE copy of your booklet on increasing service shop profits.

NAME _____

FIRM _____

ADDRESS _____

CITY _____ STATE _____

HIGHER
AVERAGE
PARTS AND
LABOR SALES

Hundreds of dealers now enjoy bigger service profits and guarantee customer satisfaction by using the *Clayton Chassis Dynamometer*.

Diagnosis is fast, accurate and complete, with all tests made while the car is under load. No guesswork. No road testing. No incomplete work orders. Mechanics have a definite "blueprint" of what to fix and what parts are needed. Shop work speeds up and parts sales increase.

After service, final adjustments and inspection on the *Clayton Dynamometer* guarantee peak performance on the road. The customer is satisfied with his car's improvement... and your bill. Costly "come-backs" are completely eliminated, and service profits multiply.



This book tells you how the Dynamometer can build your service shop business.



**Dynaflow, Hydramatic
Total 4 Million**

Two General Motors Divisions have produced nearly 4 million automatic transmissions since the end of World War II. Detroit Transmission Division early in August completed its 3 millionth automobile type Hydra-Matic transmission and at about the same time Buick announced that it had built 1 million Dynaflow units. Significantly of the 3 million Hydra-Matics, only about 200,000 were built before the war with 2.8 million being turned out since 1945. Buick began production of the Dynaflow in 1948.

**Chevrolet to Utilize Own
Plants for War Work**

In order to hold employment as high as possible in its own plants during the anticipated restriction of automobile production, Chevrolet is planning to do much of its own manufacturing of components for the Wright R-3350 engine for which it holds contracts. Chevrolet officials have surveyed all of its manufacturing plants and will place as much defense work in them as there is open capacity.

PROVED!

Ads in Country Gentleman Help You Sell More Goods!



For travel the Davises, Oklahoma Country Gentleman family, have 2 cars; for farm operations, 4 tractors, 2 trucks, a combine and other equipment.

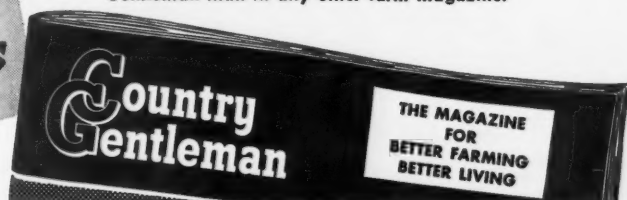
When a manufacturer puts an ad in Country Gentleman, it's the strongest kind of help to you in selling your best rural customers! This has been proved in a nationwide survey of men and women heads of Country Gentleman homes. Not only do they read Country Gentleman more, use it more, like it more than the other big farm magazines—but they also . . .

- 1** READ THE ADVERTISING in Country Gentleman...in 96.2% of homes.
- 2** GET BUYING IDEAS from the advertising in 3 out of 4 homes.
- 3** RECALL DEFINITE BUYING IDEAS in over 3 out of 4 of these homes.

... that's why dealers like you give
Country Gentleman a lead of more than 2 to 1
when voting for the farm magazine that helps most to sell local customers

*GREATER POWER TO MOVE PEOPLE
GREATER POWER TO MOVE GOODS*

That's why Country Gentleman also rates first with advertisers. They invest more advertising dollars in Country Gentleman than in any other farm magazine.



Pop O'Neill Continued from Page 47

took the car around the block, taking careful mental notes on the performance. Then he drove back up in front of the shop and let the engine idle. He raced it a few times, then grinning broadly, he turned off the engine.

He had learned that the vibration occurred whether he was driving along the road or standing still

and had thoroughly assured himself that the difficulty was not in the drive line. It was noticeable with the car standing with the engine at part throttle. Immediately he checked the motor mounts but to his surprise they were tight and in excellent condition.

"It must be inside the engine," he told himself. "Probably a fly-

wheel out of balance." Promptly he went for his tool box to begin to pull the pan. But before he had crawled under Larry came in.

"Pop's really taking chances these days, isn't he?" snapped Larry, "letting you work on a car like this."

Tommy explained the five dollar bonus involved and Larry's face dropped a foot. "You mean you get five bucks just for taking the vibration out of a practically new engine?" he said. "Boy, that's a straight gift if I ever heard of one. It's in the motor mounts."

"No, I checked them," Tommy said, shaking his head.

"How about the fan?," said Larry. "If that has a bent or busted blade that would cause vibration, too. Roll her over once, and I'll check it for you."

"Pop bet me that I couldn't get the trouble. I'm sure that you could get it," said Tommy.

"You bet," said Larry. "You don't never see Pop offering me a fin to do an easy job like that. But then, of course," he added modestly, sticking out his chest and thumbing his armpits, "I'm a mechanic."

At the moment Tommy was too down in the mouth over his own inability to find the trouble to think of any adequate reply. So he left Larry to deflate naturally as it became necessary for him to exhale the big breath he had taken to give him a chest. Then he picked

(Continued on page 118)



For Best Results . . .
CONTACTS *Must Be Good!*

All these ECHLIN Extras at no extra cost to you . . .

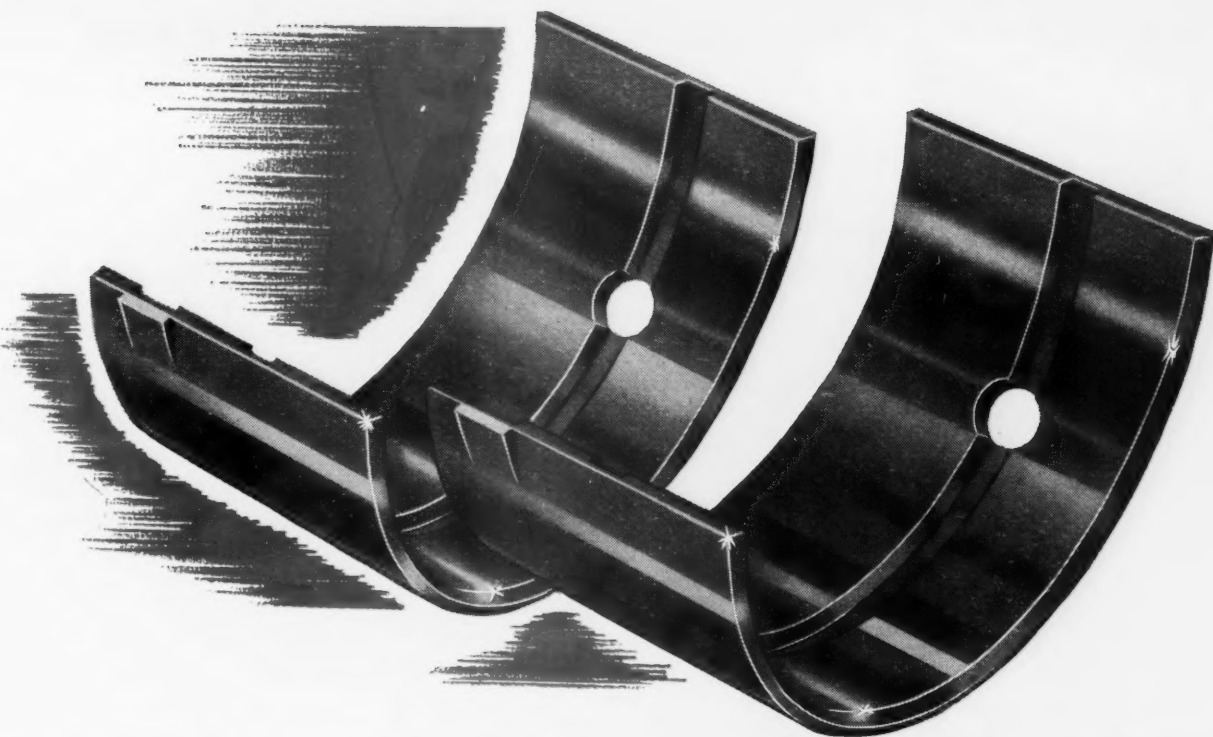
MIRROR FINISH TUNGSTEN FREE FLOATING SPRING
COPPER CONDUCTOR STRIP GREATER PRECISION



ECHLIN Ignition
A PRODUCT OF
CONTACTS
COILS • CONDENSERS
& OTHER AUTOMOTIVE
ELECTRICAL PARTS

ECHLIN MANUFACTURING COMPANY, Dept. MA, 220 EAST ST., NEW HAVEN 5, CONN.





Master Engine Mechanics Prefer **MONMOUTH**

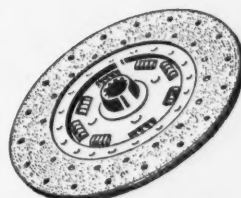
TODAY'S cars are powered with the finest engines ever built.

For a great majority of these engines, master designers and makers specify and use CGB thin wall bearings.

When replacement becomes necessary, master engine mechanics maintain the standard of engine performance with Monmouth Bearings. These bear-

ings are identical in every detail with the original bearings. They excel all others in finish, in precision, in quality and in engineered performance* at standard prices.

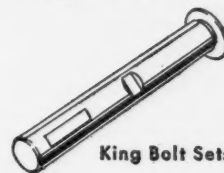
Efficient N.A.P.A. Jobbers coast to coast are anxious to give you Minute-man service on your needs for genuine Monmouth Bearings.



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Chassis Parts



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***NOTE:** All eight cars finishing the 1951 Indianapolis Race used Clevite 77 and Micro Engine Bearings.


All Monmouth Replacement Parts are engineered and precision made to safeguard the reputation of the master automotive mechanics and insure user safety and satisfaction.



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Makers of TEXCEL Cellophane Tape, and a complete line of pressure-sensitive tapes for industry.

LISTED BY
UNDERWRITERS'
LABORATORIES, INC.

Pop O'Neill

Continued from Page 116

up the conversation quickly again.

"At any rate, I don't believe it is the fan at all," he said. "I've already looked at the blades and none are broken or bent."

"Then you'll have to pull the heads and pan, all right," said Larry. "It must be inside the engine."

Fortunately for Tommy, Pop had overheard part of the conversation and came walking in to join them. "What's up, boys?" he said.

"Nothing," said Larry. "Everything's got to come down."

Pop shook his head. "Not unless I'm wrong. Which I doubt."

"Look," said Larry, "how's about stoppin' playing games. Give me the fin you promised the kid, and I'll fix the Cadillac for you."

"Unh, unh," Pop shook his head. "You never pay me for the right answers."

"But I'm not old money bags around here," said Larry.

"Me neither," said Pop. "Between you fellows and the government you keep me broke most of the time." He turned to Tommy, "I don't believe you'll have to pull either the pan or the heads on that job," he said. "You spend a little more time looking for the trouble without the heavy work. Then when you think you've got it, call me. I'll give you another half hour."

(Continued on page 122)



New Britain FLEX HANDLE A HANDFUL OF JOB-POWER FOR EVERY MECHANIC!

When you get your hands on a New Britain Flex Handle you'll know why they're Tops in Tools! Their solid feel tells you here's a Tool built for rugged, fast action, and lots of it! It's perfectly balanced, slim and long reaching to get in those tough spots!

Feel that hand-hugging grip . . . prevents slipping and fumbling when you put extra pressure on tough nuts. Run your eye down the gleaming shank of finest alloy steel, expertly forged and heat treated for tremendous pulling power, triple plate, chrome finished for long rust-free life. See the five position adapter? It's designed to work at all angles, gets you into tight places, around obstacles!

Here's brute power that handles like a baby . . . team it up with famous New Britain Sockets, Cross Bars, Universals and Extensions to turn out fine work the fast, easy New Britain way. Call your NAPA Jobber, he'll gladly show you the great New Britain Line. The New Britain Machine Co., New Britain, Conn.

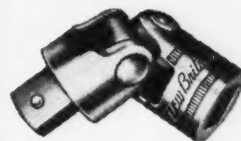


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DRIVES



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3/8", 1/2", 3/4"
DRIVES



**CONNECTING
ROD SOCKETS**
1/2" DRIVE



EXTENSIONS

1/4", 3/8", 1/2", 3/4"
DRIVES



RATCHETS

1/4", 3/8", 1/2", 3/4"
DRIVES

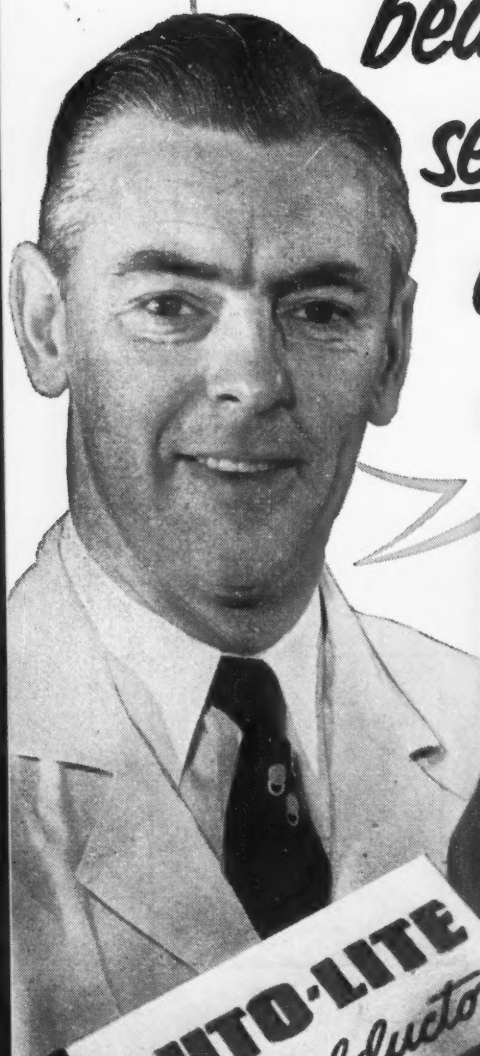


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DRIVES

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complete wire ^{and} cable line

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AUTO-LITE *"Steelductor"* SPARK PLUG WIRE

This outstanding Silver Sheathed Auto-Lite Steelductor high tension ignition cable employs a seven-strand conductor of stainless steel instead of the conventional nineteen strands of copper wire. Gives remarkable improvements in performance when employed in shielded circuits.



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AUTO-LITE *"Flextrand"* PRIMARY WIRE

Highly resistant to attacks of heat and oil, Auto-Lite Silver Sheathed Flextrand primary wire permits easier stripping and soldering . . . gives long life . . . and is easy to install.



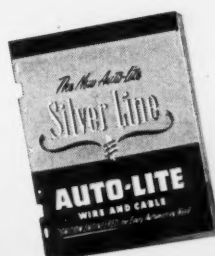
PLUS

AUTO-LITE *"Power Line"* BATTERY CABLE

Auto-Lite Battery Cable, complete with the new Power Line Terminal that resists corrosion . . . assures excellent contact . . . complete customer satisfaction.



It will pay you to switch to the Auto-Lite Wire and Cable Line . . . the complete line—Steelductor Spark Plug Wire, Flextrand Primary Wire and Auto-Lite Power Line Battery Cable with the new Power Line Terminal that holds tight. Sign up today with Auto-Lite for the best dollar-making merchandising combination in the industry.



The Auto-Lite Wire and Cable Catalog, giving complete specifications for every automotive vehicle, is available on request.

Pop O'Neill Continued from Page 118

Twenty minutes later Tommy was no nearer a solution than he had been first thing in the morning. "Well," he told himself, "I'll clean up that fan a bit before I call Pop. It looks pretty dirty to me." He washed the accumulation of dirt and grease from the fan blades and scraped off a hunk of undercoating which had adhered

to one blade. Then he went to call Pop.

"I give up, Pop," he said, "I just can't find it, I'm afraid, and time's going by pretty fast. I guess you'll have to donate the five bucks to your favorite charity."

Pop came out to the Cadillac and took one look inside. He saw that Tom had cleaned up the fan and

had given the top of the block a swipe with his rag. Without a word, Pop fished his wallet from his hip pocket and handed Tommy a crisp, new five dollar bill. Dumbfounded, Tommy took the bill and watched in silence while Pop walked back into his office.

"What was the trouble, kid?" said Larry, his eyes popping at the sight of the five bucks in Tommy's hand.

"Darned if I know," said Tommy. "He just took a look at the engine and handed me the bill."

"He's gettin' pretty old," said Larry. "We'll have to watch out for him from now on. He usta know what a dollar was worth. Stick it in your pocket and forget it anyway. I'll help you out."

Larry slipped behind the wheel and gave the Cadillac a spin around the block. He came back, switched off the engine. "Makin' a sucker outa me, hey?" he growled. "There's nothin' wrong with this car. What'd you do to it?"

"I don't know what I did," said Tommy. In bewilderment he turned on the engine himself and revved it up. The engine purred smoothly and powerfully without any vibration at all. Tommy turned the key, stepped out of the car with decision and marched straight into Pop's office. He laid the five dollar bill down on the desk.

"Okay, Pop," he said, "I guess I'll give it back."

(Continued on page 124)

NEW!! NEW!! NEW!! FISH-EYE KILLER ELIMINATES FISH-EYES IN REFINISHING SILICONE POLISHED CARS!



FISH-EYE KILLER is a special substance that is easily added to your primers, standard hot or cold lacquers, or enamels before spraying. FISH-EYE KILLER is guaranteed to eliminate fish-eyes caused by painting over silicone polished cars.



It saves hours of labor because it eliminates solvent washings to remove silicones.



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FISH-EYE KILLER can be used on any car or any finish whether it has been siliconed or not.



One bottle of FISH-EYE KILLER treats 28 pints of paint or primer . . . enough to completely paint four cars.

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Put only one eye-dropperful (dropper furnished with each bottle of FISH-EYE KILLER) in each pint of your standard paints or primers thinned to spraying viscosity. Shake slightly—then spray. Takes less than a minute.

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"How come?" asked Pop in surprise. "You earned it fair and square."

"No," said Tommy, "I didn't. Apparently I fixed the vibration, but I don't know what caused it, or how I stopped it."

"Simple, really," said Pop, chuckling at Tommy's embarrassment. "Did you notice anything wrong

with the fan?"

"No," said Tommy, "there wasn't a thing wrong with the fan. Larry thought too it might be a bent blade or a broken one. But there was nothing wrong with the fan."

"Why did you clean it up?" said Pop.

"Oh, no reason," said Tommy, "it just seemed a shame to have un-

dercoating on a fan on an engine in as nice a car as that one."

Pop nodded his head, "It was a shame. Someone had slipped, and that blob of undercoating stuck on the blade, was heavy enough to throw the fan out of balance. That was what caused the vibration. As simple as that. So simple that two other shops with good mechanics had both missed the car's trouble. Sometimes, you know, the best of mechanics lose sight of the trees because the woods get in the way. Engine troubles are not all caused by complicated mechanical failures."

He shoved the five dollar bill back across the desk. "Put it in your pocket anyway, Tommy. You're about due for a raise."

Out of curiosity, Larry had followed Tommy through the door and at the mention of raise, his ears perked up. "Say, Pop," he said, "how about me, too?"

The air was tense for a minute, but when Pop smiled everyone relaxed. Tommy was the first to speak.

"I guess I'm here first," said Tommy. "Sorta reminds me of a story they told in the army about a mother coming into her darkened living room to find her daughter.

"Mabel," shouted the mother, 'get off that young man's knee.'"

"Oh, mother," pouted Mabel, 'I got here first.'"

N.A.D.A. Asks for no More Tax Boosts on Cars

At a recent Senate Finance Committee, the National Automobile Dealers Assn. asked the committee not to put more taxes on autos. They said that the automobile already is hauling the biggest load by far in the government's excise tax program. Charles C. Freed, of Salt Lake City, spokesman for NADA, quoted the figures from Secretary of Treasury Snyder, to show that automobiles, trucks and parts account for 82 percent of the total revenue from manufacturers' excise taxes under present law. That does not include the take from federal gasoline taxes. The committee is currently considering the House approved tax bill to increase both the gasoline levy and the excise tax on cars, trucks, accessories.

SOLDER SEAL Produces Profits

Profit-minded dealers and servicemen know from experience that it pays to push these famous products. Millions of motorists recognize, buy SOLDER SEAL for safe, easy use and dependable results . . . that's real profit-producing for you!



Liquid Radiator Repair
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Block Seal

Makes strong, durable metallic seal of all leaks in engine blocks or cylinder heads. Quick and easy to use. Withstands extreme range of heat, pressure and vibration.



Super Solvent

Cleans cooling systems thoroughly without reverse flushing. Powerful oxalic acid formula removes rust, grease, scale and sludge. Double-action neutralizer conditions cooling system and retards formation of engine-clogging deposits which cause overheating.

Stock up now for fall service requirements. Get your order in today for these nationally-known, fast-moving profit producers!



RADIATOR SPECIALTY COMPANY

CHARLOTTE, NORTH CAROLINA
RADIATOR SPECIALTY COMPANY OF CANADA, LTD.



1897 SALES EFFORT

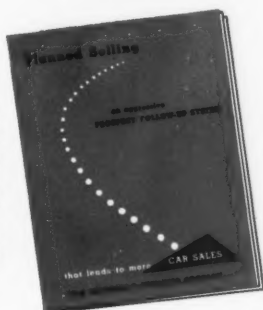
In order to promote sales jeopardized by a disgruntled owner who placed a placard on his car reading "This is the only way you can drive a Winton" and pulled it through town with a team of horses, the manufacturer followed him pulling a wagon with a jackass in it and a sign reading "This is the only animal unable to drive a Winton."

—from "Get A Horse" by M. M. Musselman

NOW...this aggressive PROSPECT FOLLOW-UP SYSTEM can help you Organize Sales Effort and Increase Sales!

With a minimum of "paper work" this simplified Prospect Follow-Up System gathers and organizes the facts you and your salesmen need for effective creative selling. It aids in planning daily contacts and provides information needed to effectively direct the salesmen. It also reflects each salesman's daily efforts—shows whether they are productive or non-productive—how many prospects buy competitive makes. The Prospect Follow-Up System prevents the loss of sales from lack of follow-up by showing each morning those prospects due for follow-up that day. In addition the system evens-out work distribution by providing an opportunity to add prospects to salesmen who have too few.

For complete information mail the coupon below. You will promptly receive the booklet entitled **PLANNED SELLING** which gives complete information on how Reynolds & Reynolds aggressive PROSPECT FOLLOW-UP SYSTEM will increase your sales.



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CELINA, OHIO

OFFICES IN PRINCIPAL CITIES

WESTERN BRANCH: 3044 RIVERSIDE DRIVE, LOS ANGELES

Body Shop Continued from Page 72

come into this department), two compounders and waxers and a porter. These nine men work on an hourly rate with an incentive bonus.

The building is modern. Each work bay has its own overhead door, so traffic tie-ups are virtually eliminated. There is an abundance of light. The doors are glass almost to the bottom and, during

the warm weather, all the doors are left open for maximum light and ventilation. A large battery of fluorescent lights provides excellent illumination regardless of the outside source of light. A spacious wash room is provided for employees' use.

To provide maximum working space, the compressor is mounted out of the way in the second floor

"loft." Also, all large parts are stored upstairs.

Two work bays have flush-type two-post hoists, one of which is used for undercoating. There are two one-end lifts and two floor jacks. Also, the shop is equipped with a complete set of power straightening tools and all of the latest hand body dinging tools. In one corner of the building is an up-to-date paint spray booth. Each work bay has its own electrical outlet and air connection.

Another valuable asset of Warrington's body shop is the tremendous paved parking area, measuring 45,000 sq ft. Besides being used to park cars which have not been brought into the body shop, this space handles all of the overflow from the main service and sales department (which is two blocks away). Of course, this area also figures into the long range expansion program, which includes adding onto the new building when the necessity arises. The plan of the structure is such that it can be built onto with a minimum of modification to the original part.



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The men who know the importance of quality replacement parts use and recommend G-H Front End Suspension Parts, Tie Rod Ends and King Bolt Sets. Each G-H replacement part is scientifically engineered, precision built of the finest materials to give guaranteed performance. Increased sales, better profits, more satisfied customers are yours with the complete G-H "Safety Parts" line. Ask the G-H man or write us.



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New Center for Texas K-F Dealer Covers Over Ten Acres

The Alexander Motor Company of Dallas, Texas, Kaiser-Fraser dealer for Dallas and 55 Texas counties, has a new automotive sales and service center covering 10½ acres and reported to be the largest in the world. It is located near the metropolitan area and includes a showroom 300 ft. long with a capacity for 65 cars.

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Automotive engineers choose Delco batteries for original equipment because they know Delcos are dependable . . . deliver starting power when needed.

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INDUSTRIAL CRANE BRIDGE BRAKES

Selling Automobiles . . . Continued from Page 43

boy who does this had better watch out or he will get into a second class, that of feeling sorry for himself, in which case the bony part of his spine turns into a soft colloidal substance known as "soap" and he is absolutely worthless.

The second class of lad—I generally have very few of them—is

the slicker, the mucker, who tries to get by by playing unfair football. And I tell that type of boy that we cannot afford to have him on the team, for he will bring discredit on our organization, and also impress on him that slugging and unfairness does not pay either in a game or in life after leaving school.

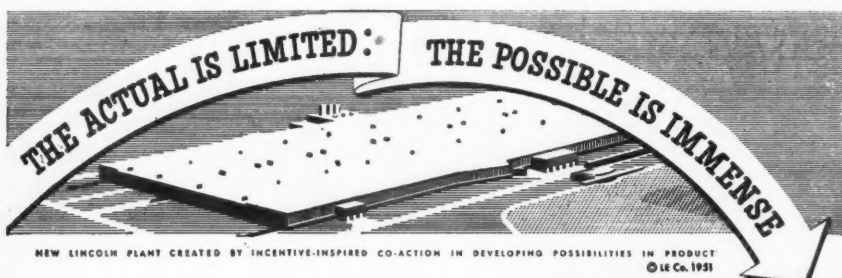
Then, third, there is the boy who lacks courage, who is afraid. What is courage? Courage means to be afraid to do something and still going ahead and doing it. If a man has character, the right kind of energy, mental ability, he will learn that fear is something to overcome and not to run away from.

And before the first game of the year I talk to them again along the same lines on ambition. I say ambition—the right kind of ambition—means that you must have the ability to cooperate with the men around you, men who are working with you; and it is my observation that ability to cooperate is more essential than individual technique. In this day and age of ours no individual stands alone any more; he must be able to cooperate in every sense of the word; and that is not a very easy thing to do.

Now I want to impress the necessity for cooperation on the minds of you dealers, sellers of trucks and automobiles. Unless you understand the problems of production, engineering, bookkeeping, service, advertising, and all departments that go to make up your organization, your organization cannot succeed. The failure of any one of them may cause you to fail.

Later on after a game or two, and particularly after a game where I have seen the lads give up, I talk to them further some noon on ambition. I tell them that there can be no ambition without perseverance. By perseverance I

(Continued on page 132)

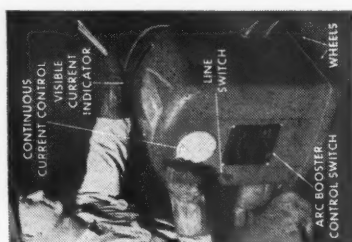


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Now, even the inexperienced operator makes strong, quality welds. With the "Fleetwelder's" wide current range and its non-sticking arc, heavy frame and axle repairs as well as light body jobs are done in a minimum of time . . . with the minimum of cost.

- Handles $\frac{3}{16}$ " to $\frac{1}{4}$ " electrodes
- Has "Arc-Booster" to start the arc automatically.
- Portable . . . has wheels for easy moving.
- Simple to install . . . operates on single phase power.

Fig. 3—"Fleetwelder" 200 AC—low in price. Has Lincoln famous industrial construction . . . yet sells for less than other welders of comparable capacity.



LINCOLN WELDED REPAIRS ALWAYS SAVE MAN-HOURS AND CUT COSTS

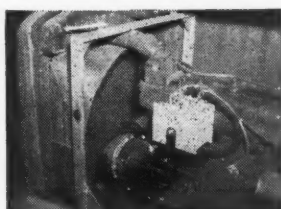


Fig. 1—Cuts Radiator Leaks by welding this simple support directly to truck frame. Allows radiator to float independently of cab body and reduce damage from road pounding.



Fig. 2—Patches Torn Fender by first tacking on sheet metal patch and then adding body solder with electric arc torch. Concentrated heat from electric arc cuts distortion . . . saves on sanding and finishing.

HERE IS HOW

Write for Bulletin 1301 on "Fleetwelder" 200. Dept. 305

THE LINCOLN ELECTRIC COMPANY
CLEVELAND 17, OHIO



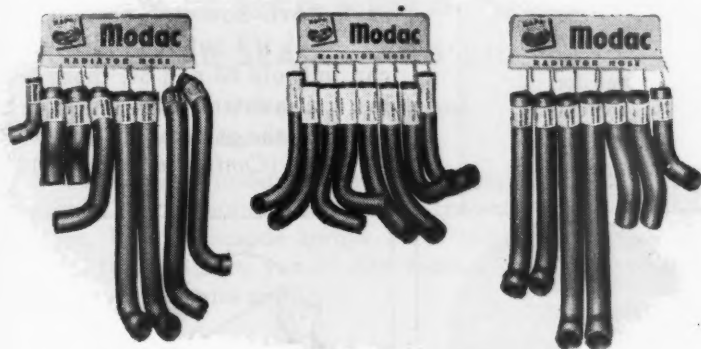
Boost Radiator Hose Profits with Modac's *Big, New* "PADLOCK" PROMOTION

Most motorists winterize their cars with anti-freeze early in the season.

That's the time to sell radiator hose — "advance" protection against leaks, complete hose failure, loss of valuable anti-freeze, severe engine damage.

Modac's new "Padlock" promotion is a simple, dramatic, effective means of increasing your hose business. All you do is hand the padlock to the motorist to read while you fill up the gas tank, drain the radiator, or otherwise service his car. It points up, drives home, the sound common sense of *then-and-there* radiator hose inspection . . . and immediate replacement if needed! You'll make sales and sales and more sales!

If you are not yet using this sales-producing promotion, see your nearest Modac Jobber at once. Don't delay — get the padlock on *your* share of the season's radiator hose profits.

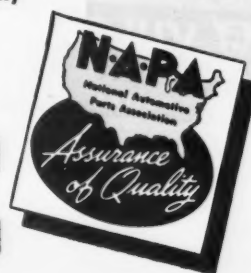


With this small assortment of Modac Curved Hose, you'll service almost every car that drives into your station. Only 14 sizes will give you fast turnover, easy profits.

Modac's PADLOCK PROMOTION IS EASY TO USE!

Gives you everything you need FREE — to quickly "up" Radiator Hose Sales. This tested simplified plan is easy to use, requires no extra work on your part. Ask your nearest NAPA Jobber for complete free dealer kit!

Modac



HAYWOOD
INDUSTRIES
WAYNESVILLE, N. C.

Selling Automobiles . . . Continued from Page 130

mean the ability to stick in there and keep giving the best of one's self. The ability to keep in there and keep trying when the going is tough and you are behind and everything seems hopeless. There can be no success, no reward, unless every man has the ability to stay in there until the last whistle blows.

One year we had played our schedule of eight games, and the ninth and last game was with Southern California in Los Angeles. With but seven or eight minutes to play we were ahead seven to six. I, of course, thought the game was pretty well over and felt that the one point lead we had was sufficient to win, but just then

the Southern California boys began to collect themselves and started an irresistible drive down the field. I changed my guards, tackles, and still on they came three and four yards at a time over our goal line for a touch-down and, although they missed the goal, that made the score 12 to 7 in favor of Southern California with about three minutes to play. Well, I said, "I guess it is all over but the shouting."

We elected to receive the kick-off and brought the ball back to the 20-yard line. Here we tried three plays without making an inch, so finally on the fourth down kicked down the field to Southern California, who, much to my very pleasant surprise, punted the ball right back as if to say: "There it is—what are you going to do with it?" We had 70 yards to go. In those three plays on the 20-yard line I had seen something I had hoped I wouldn't see. I saw ten men still doggedly trying for all they were worth, but the eleventh lad, a little third string quarterback, was through. As far as he was concerned, the game was over. Hope had eluded him. I don't blame him, for he was just a normal young lad nineteen years old. I turned around to a little chap sitting behind me on the bench who had been injured earlier in the season and had not played much—little Art Parisien—and I said, "Art, how do you feel? Do you think if I put you in there you can pull old 83 and 84, those left-handed passes of yours, and maybe still pull the game out of the fire?"

(Continued on page 134)

HAVE YOU CHECKED THE ADVANTAGES OF THESE OUTSTANDING CRANKSHAFT GRINDER FEATURES?



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gives you ALL of these advantages which mean fast production, high quality work, ease of operation and economy. Send for full information today.

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1. Double Action Table Traverse
2. Dual Cross-Slide Heads
3. Rapid Wheel Retraction
4. Heavy Box-Type Ribbed Base
5. Work Table Locked to Sub-Table with Timken Bearing
6. Heavy-Duty Super Precision Spindle
7. Hardened Ground Steel Strips on Headstock and Tailstock Base
8. Spring-Balanced Tailstock Spindle
9. Controls Located for Operator Convenience
10. Dynamic Center Balance for Smooth Grinding

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Address _____
City _____ State _____



"No-No Jane—that's where the oil goes. The gas is in the back somewhere!"



"I proved to myself that there's
50% MORE PROFIT
 IN
LION Nokorode"
UNDERCAR SEALER AND SILENCER

"Concentrated Lion Nokorode gives me
 50% more profit on each drum!"

Most ordinary undercoatings have a big percentage of solvent. When sprayed 1/8" thick they dry about 1/16" thick. Lion Nokorode *sprays* 1/16" thick—*dries* about 1/16" thick. Result: you do 50% more cars per drum! Yet Nokorode costs no more.

"Lion Nokorode is easier, quicker
 to apply—saves labor costs!"

Nokorode is *uniform* for smooth application. It's *homogenized*—won't clog guns. That means you do *more* jobs at *less* labor cost. It's *naturally black*—no useless coloring added.

Made and Guaranteed by

LION OIL COMPANY
 EL DORADO, ARKANSAS



LION Nokorode

IS NATIONALLY ADVERTISED IN

THE
 SATURDAY
 EVENING **POST**
 AND **TIME**

Powerful, Consistent Advertising
 That Pre-sells Your Customers!



"I clipped this coupon for full
 details on Lion Nokorode's
 profit plan!"

LION OIL COMPANY, El Dorado, Arkansas

Please send me complete details on how I can in-
 crease my undercoating profits with Lion Nokorode
 Undercar Sealer and Silencer.

Name _____

Street _____

City _____ State _____

Brand of undercoating I am using now, if any

Selling Automobiles . . Continued from Page 132

Before I had finished talking he had his head gear on and was already on the field. As he was leaving, he turned around and hollered back to me, "Coach, it's a cinch."

That may sound like egotism, but it wasn't. A man once defined egotism to me as "the anesthetic that deadens the pain of one's

stupidity." You can be assured that that was not the case with this lad. He felt that he could do it, for he had done it just a short time previously against Northwestern in Chicago, and he felt that he could do it because he was filled with hope. On the first play he pulled a play of 9 yards straight through the line, after which he

called time out. Then he called those ten lads around him (for he could not talk to them until after the first play) and you could see him imbuing them with his optimism. He lifted those ten teammates of his and, to my very pleasant surprise, they lined up and did pull old 83, that left handed pass, which is good for a gain of 23 yards. I thought that that was fine, but I still didn't see how we had a chance, but I thought it would at least sound good to the alumni over the radio. There was now left only two minutes and a quarter to play. Next he pulled a side end run to the right side of the field for position, and there was less than a minute to play. Then he pulled old 84, that left handed pass to a lad named Niemic, who went over for the winning touchdown. Winning the game is not important, although interesting. The interesting thing to me was the fact that this team wouldn't be beaten and proved to me that the team or the individual that wouldn't be beaten couldn't be beaten.

That applies to you men out there on the firing line. You men are facing keen competition this year, perhaps facing more opposition than you ever faced in your life, but I say that is the sort of thing you should thrill to—any kind of challenge—any kind of organization ought to thrill to. I think your organization, the Studebaker organization, has demonstrated that you can go better
(Continued on page 138)

**NOW... There's no trick
to removing tail
pipes or mufflers!**



Herbrand's No. 490

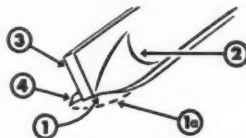
MUFFLER and TAIL PIPE CUTTERS

a Tool-of-the-Month selection

Without damage to the good part, tail pipes or mufflers can be removed quickly and easily. The No. 490 set consists of two companion tools: No. 491 cuts internal and No. 492 cuts external.

Made of high grade hot forged alloy steel, accurately machined and heat treated. These tools cut the metal in a clean, straight line, automatically freeing the frozen connections without any damage to the good part. Made for long life under heavy usage.

Mechanic's net \$3.50 per set



1. Concave surface (on No. 492) fits smoothly over inside tube while cutting outside tube, prevents wobble and damage.
- 1a. Convex surface (on No. 491) fits under outside tube; does same as above for cutting inside tube.
2. Curved "plow share" pulls the cut tube away from good part, breaking seal of rust and corrosion.
3. Sharp cutting edge turns up clean ribbon of metal.
4. Right angle straight edge keeps tool cutting straight ahead.

The No. 490 set is Herbrand's current TOOL-OF-THE-MONTH selection. See it at your Herbrand distributor or write us.



Herbrand Tools Fremont 7, Ohio
THE BINGHAM-HERBRAND CORPORATION



"Thank goodness—that roadman is just going to cut up—I thought he might have come in to cut-back!"

"Our Dyn-A-Lyzer has Doubled



Alignment Service PROFITS"

writes Mark King, Service Manager of Broadway Buick. Read his letter reproduced at the left.

BROADWAY BUICK SALES
LONGBEACH 1-7700 • 5701 BROADWAY • CHICAGO 40, ILL.

Manbee Equipment Division
185 N. Wabash Avenue
Chicago 1, Illinois

Gentlemen:

As I have mentioned personally on several occasions our Dyn-A-Lyzer has more than doubled our Alignment Service Profits.

Our customers can see that dynamic 4-wheel alignment with the Dyn-A-Lyzer gives them far greater protection than ordinary alignment and they pay more for it.

We are doing a great deal more alignment work since we got the Dyn-A-Lyzer. Measuring alignment with the wheels revolving under load, as well as setting toe and centered steering position with the Tractoscope attract attention and develop interest. Since we have the first Dyn-A-Lyzer in this area, we are naturally benefiting greatly.

We have long been aware of the importance of good alignment to the satisfaction of our customers and we take pride in providing the most complete and accurate service obtainable.

Yours very truly,

BROADWAY BUICK SALES CO.

Mark King
General Service Manager

"The Dyn-A-Lyzer is by far the fastest, most accurate and easiest to use alignment machine I have found in 20 years experience," says Tom Miller, Broadway Buick's alignment specialist.

"Less than twenty minutes is my average time for a complete Dyn-A-Lyzer job, which includes checking and correcting camber, caster, king pin inclination, turning radius, tracking, toe and centered steering position—and my jobs don't come back.

"When the customers see me throw the switch and revolve the wheels to restore true driving position, brother, they are sold. Then when they see me check tracking, set toe and center the steering wheel with the tractoscope they know they are getting plenty of extra protection.

"Since Dyn-A-Lyzing takes less time and we get much more per job it's made a big increase in my pay checks. Maybe you think I don't like that."

For complete information on Dyn-A-Lyzing, the newest and most profitable automotive service, just mail the coupon.

MANBEE EQUIPMENT DIVISION

185-A North Wabash Ave., Chicago 1, Ill.

Send complete information about the Dyn-A-Lyzer®—Manbee's Dynamic, 4-wheel Alignment analyzer.

Name _____ Title _____

Company _____

Street _____

City _____ Zone _____ State _____



Again Johnnie Plug



Johnnie Plug-Chek really made sales for me last Fall!

"The Auto-Lite Spark Plug Johnnie Plug-Chek Promotion last fall did a swell job for me . . . plug volume jumped and I increased sales on every item I stocked."

Schaad

Proven Displays to Boost Sales of Your Key Fall Items

The Auto-Lite Johnnie Plug-Chek Kit is designed to make your fall selling program more successful than ever. Contains colorful window posters and counter cards that add life to your windows . . . and tie you in with famous "Johnnie Plug-Chek" who will be selling for you on the Auto-Lite "Suspense!" program on radio and TV. Kit also includes sales tips to help you boost your sales by selling more to more customers. Be sure to get your Johnnie Plug-Chek Kit . . . today.

THE ELECTRIC AUTO-LITE COMPANY
Merchandising Division

Toledo 1, Ohio

Toronto, Ontario



AUTO-LITE

Check helps you **SELL** *everything you handle!*

on **NETWORK**
RADIO...

on **NETWORK**
TV...

Famous Johnnie Plug-Check . . . on the top-rated Auto-Lite "Suspense!" program on radio and TV . . . will be telling customers to see their friendly Auto-Lite Spark Plug Dealer . . . have their

cars made ready for cold-weather driving *early* . . . and to have "Spark Plugs Checked, Too." This means *more* customers and *more* sales for all Auto-Lite Spark Plug Dealers.

It pays to be an Auto-Lite Registered Service Dealer, so get the details from your Auto-Lite Spark Plug Jobber now.

AUTO-LITE
SPARK PLUGS

Ignition Engineered

Helping you
to sell more to
more customers!

Auto-Lite
Spark Plugs
Patented
U.S.A.

Spark Plugs
"Ignition Engineered"



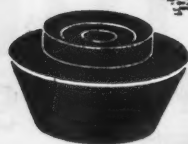
Selling Automobiles . . Continued from page 134

when the going is tougher, so I say to you that this year you should thrill to this challenge.

I remember very well just before that game everything was quiet in the dressing room. I could hear the band playing in the distance and gradually the music died away as the band marched off the field. Pretty soon the ref-

eree rapped on the door and said we had three minutes to get out on the field. I turned to the team and said, "Boys, you are today going up against a great football team; how great we don't know, but I don't think they are a bit better than you are. I think you are just as good as they are. I think I know just about what

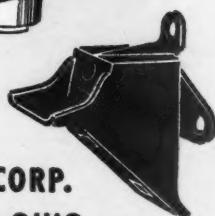
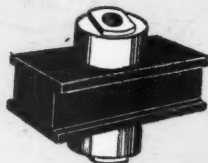
shape you are in physically. I think I know what shape you are in mentally, and how much football you know, but there is one thing that I don't know and that is—what is in your hearts? That is going to tell the story on the field this afternoon and it is up to you to go out there and show 90,000 people just what is in your hearts. Now if we win the toss, we are going to receive the ball, but if they receive we are going out there and tackle hard and play a good defense. I want you full of pep. Hit them hard and take the heart out of them in the first few minutes; and you men in the backfield, play heads up football all the time and watch for forward passes, and when that ball is in the air, go and get it, and when we get that ball that is when we go to work. I want every man to block with everything he has in him and I want every man on the team to dig in his toes, lift those knees high and when we start driving down the field for the goal line, that is when I want you to go, go, go, go, go, go, go!"



**TAKE 2 MINUTES
TO CHECK
MOTOR MOUNTS**

**REPLACE WITH
ARMOR-FLEX**

Sure the motor will hum perfectly when you finish that Fall tune-up. But if you neglected to replace a faulty motor mount, all your good work is wasted—as the customer gets a "rough" ride on the road. Better take 2 minutes to make sure your job is completely satisfactory. Check motor mounts!



Doan MANUFACTURING CORP.
1761 LONDON ROAD • CLEVELAND 12, OHIO



SWAMPY.
"Now be reasonable dear, remember I told you I was getting a new piece of office equipment."

Government now Controls Strategic Metal Production

The National Production Authority has discarded its open-end Controlled Materials Plan and has switched to closed-end CMP. This means that the government has taken over complete control of steel, copper and aluminum production.

THE DODGE TRIPLE PROFIT OPPORTUNITY

*Is an Unmatched Opportunity
for You in a No. 1 Retail Field*

DODGE

AMERICA'S MOST
DEPENDABLE MOTOR CAR

PLYMOUTH

3RD. LARGEST SELLING
CAR IN AMERICA

DODGE "JOB-RATED" TRUCKS
MEET 98% OF
ALL HAULING NEEDS

All available in one
sales agreement. The only
one of its kind in the industry

You are invited to write for complete facts

DODGE • PLYMOUTH • DODGE "Job-Rated" TRUCKS

DODGE DIVISION, CHRYSLER CORPORATION • DETROIT 31, MICHIGAN

New Products

Continued from page 66

415. New Container

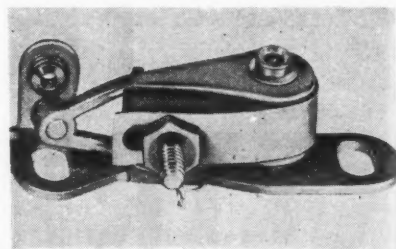
R. M. Hollingshead Corporation announces a new funnel-type cylindrical container for "Whiz Zorbit" gas line anti-freeze. The manufacturer claims that pouring is made easier without spilling with this funnel-type container which fits directly into the gas tank opening. Zorbit serves as a fuel tank anti-

freeze and gasoline conditioner, absorbing water deposits in both the gasoline and in the fuel system and dispersing into fine particles that flow with the gasoline.

416. Ignition Parts

The Holley Carburetor Co. is marketing a heavy duty breaker arm and bracket assembly. They

are interchangeable with the points used on all Holley pressure distributors. The new Holley Heavy Duty contacts are made

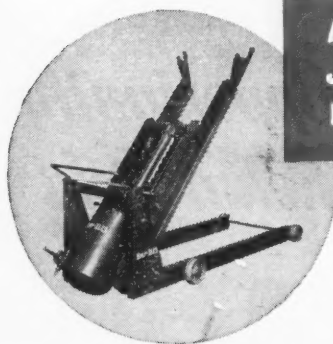


INCREASE YOUR



The Quick, Easy Profitable Way

ENJOY ADDED



NO OTHER LIFT DOES THE JOB AS WELL NO MATTER WHAT THE COST OR CLAIMS

Guaranteed—Safe—Economical...

IDEAL FOR . . .

Steam Cleaning Racks — Body and Fender Depts. — Paint and Brake Depts. — Auxiliary Greasing — Shock Absorber Service — Front End Rebuilding — Tightening Work — Undercoating Work.



Portable Pneumatic Auto-Lift...

Lifts either end of any car to 50 inches with safety. No "tricky" attachments required. Load is supported by air tight cylinder and made doubly safe at any height by automatic safety lock.

Raises car to the most convenient working height. Eliminates tiresome, back-aching crouch. No part of Bay-Lift extends beyond area occupied by car thus saving valuable floor space. Can be moved as easily as a jack and used indoors or out by simply attaching air hose. Leading car manufacturers have approved Bay-Lift.

HEAVY DUTY MODELS FOR TRUCKS
Bay-Lift heavy duty model offers all the features of the passenger car model but has capacity of 5,000 pounds and operates on 150 p.s.i. air pressure. Indispensable for truck repair and maintenance work.

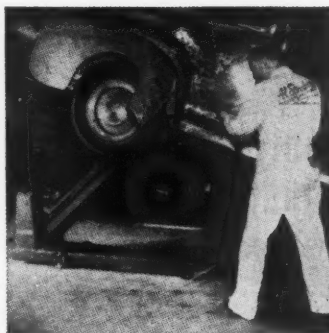


Write today for detailed information to DEPT. B

BAY MANUFACTURING COMPANY

BOX 578 — TORRANCE, CALIFORNIA

OVERSEAS DIVISION, 145 W. 45TH STREET, NEW YORK 19, N. Y.



with a vent in the center of the stationary disc to permit air to surge past the contact faces when they are opened. This is claimed to prevent the cone shaped deposit of transferred metal to improve their service life.

417. Castor Shim

The Jibo Tool Co. has added three new products to its line. The Jibo steel castor shim, painted black so that the paint will adhere to the chassis of the car and stick tight to eliminate slipping, is one of these items. Also included in the line are Nash castor shims in fair thicknesses to make all adjustments, and a Nash spacer ring for the top rear spring.

418. Stabilizer

Champs-Items Inc., announces the No. 480 steering idler third arm stabilizer for Chevrolet cars and sedan delivery trucks, 1949 to 1951 inclusive. This part is designed to eliminate front end noises, stop excessive wear on

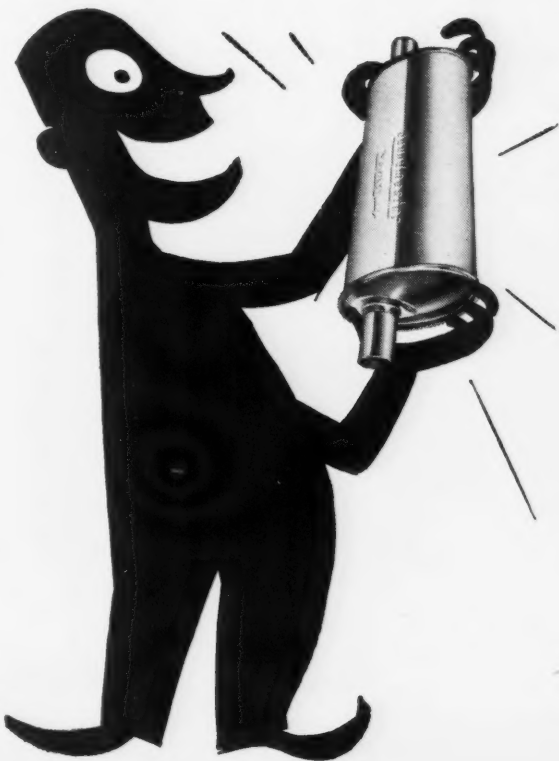
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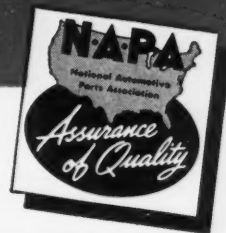
WHEN THE
MUFFLER GOES **BAD**



MAKE SURE THE
REPLACEMENT IS **GOOD**



INSTALL A
Soundmaster
MUFFLER



● One mark of a first-quality muffler is accurate fit. Another is long, safe, quiet performance. In Soundmaster Mufflers, you get *both* on every replacement. Each Soundmaster is engineered for FIT—Fast Installation Time—on each particular car. And Soundmaster's strict adherence to rigid standards of endurance, noise control and low back pressure insure utmost performance and safety in service. Ask your NAPA Jobber for the muffler that fits right and performs right . . . Soundmaster!

DE KOVEN MANUFACTURING COMPANY • RACINE, WISCONSIN

New Products Continued from page 140

bearings and couplings, and correct front end weave and tire wear for more positive steering.

419. Chrome Protector

Liquid-Glaze, Inc., has introduced Chrome-Gard, a product designed for protecting the "flash" chrome trim found on many new

cars as a result of Defense Department regulations. Sold with a rust dissolver solution, Chrome-Gard is also suitable for restoring and protecting weathered chrome on older cars. It is a clear coating which is said to adhere indefinitely to the surface. It is also claimed to withstand frictional contacts such as bumper shocks.

"VIXEN" FILES ARE MADE ONLY BY HELLER

*Here's an
easy way
to check-*

*the flawless body and
fender refinishing you get
with a "VIXEN" every time*

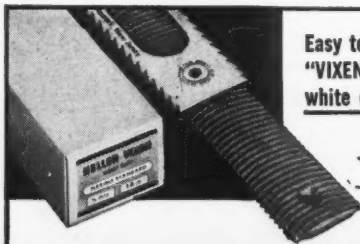
When you run your hand over any job done with a "VIXEN", you can quickly feel how evenly the surface has been smoothed. It's good as new. Of course, your eye also will confirm this. Note the absence of scratches and file marks.

This flawless refinishing results from the superior cutting power of the "VIXEN" milled curved-teeth. They *shear* the metal almost like a plane. The wide, deep teeth don't clog . . . don't scrape.

Let "VIXENS" cut your refinishing costs. Ask your jobber.



HELLER BROTHERS COMPANY
America's Oldest File Manufacturer
Newcomerstown, Ohio



Easy to identify
"VIXEN" by the
white envelope.

"VIXEN" comes factory-sealed in a white envelope, in a white carton, for quick identification. It's your protection against imitations.



HANDY HOLDER curves "VIXEN" to fit surface. Only a "VIXEN" can be resharpened again and again.

VIXEN

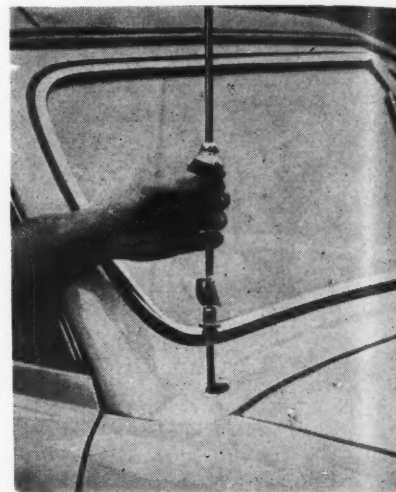
Trade Mark Reg. U. S. Pat. Off.

MILLED CURVED-TOOTH FILES

MADE ONLY
BY
HELLER

420. Antenna

National Electronic Mfg. Corp. is manufacturing a new auto radio antenna called the "Tripl-



Kwik." It can be installed by one man working only on the outside of the car. The base of the antenna contains a special captive cup washer, which, after it is dropped through the hole in the cowl or the fender, adjusts itself to the shape of the latter to form a solid anchor for the whole assembly. The antenna proper consists of three telescoping sections of heavily chrome-plated brass, extending to 59 inches.

421. Toy Jeep

Vibro-Roll Products, Inc., is marketing a new toy jeep, operated by a real electric motor and powered by two flashlight batteries. It runs forward or backward under control of a push-button re-

(Continued on page 146)

INFRA-RED DRYING OVEN



"And would you pop the peach pie in when you light your oven?"

FRAM! Fastest Selling ENGINE SAVER



**Famous FRAM Oil & Motor Cleaner
built a 16-year sales miracle**



1st in Sales. Today, 15 million American motorists keep their engines clean with Fram . . . and keep coming back for new Fram Replacement Cartridges. That's the "miracle" of Fram! Every Fram Oil and Motor Cleaner sold starts an endless chain of profits. And Fram helps you sell with giant billboards from coast to coast and powerful advertisements in *Life*, *Collier's*, *Saturday Evening Post* and *Popular Science*. That's why it pays you to sell Fram!

FRAM
OIL • AIR • FUEL • WATER
FILTERS



Cash in on New Fram Sales Miracle

Now! Fram dealers throughout the country are cashing in on another Fram "miracle"—the sensational Radiator & Water Cleaner that stops formation of rust and scale and removes particles from cooling systems. The need for cooling system protection is vital—over \$100,000,000 annually is spent on cooling system repairs alone! The Fram Radiator & Water Cleaner is a "natural" for this big market. And every one you sell starts an endless chain of profits from Replacement Cartridge Sales!



1st in Performance.

Positive proof of Fram's value was obtained in recent Dust Tunnel tests, when Fram Complete Engine Protection cut engine wear 90%! Outstanding performance like this has brought Fram to its present position of leadership in just 16 years! And it's this same outstanding performance that helps you sell more filters . . . more cartridges . . . and assures you of satisfied customers.

FRAM CORPORATION, Providence 16, R.I.
In Canada: J. C. Adams Co., Ltd., Toronto, Ont.

Car dealers cashing in on FAB-SPRAY! Used car interiors and color-smart a



FAB-SPRAY DOES THESE 4 THINGS FOR FABRICS...

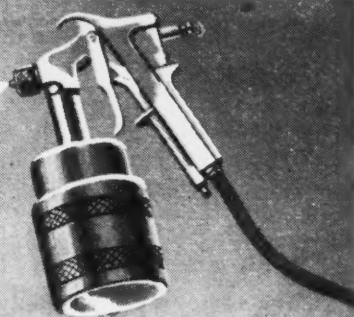
IT COLORS ...without leaving "painty" hard surface or appearance; actually *penetrates* fabric; will not clog or fill

IT COVERS dirt stains, fade streaks, water blemishes, oil and grease spots

IT RESTORES the original soft "luxury" feel to fabric nap

IT PROTECTS from wear and fading, moisture and sun; is water repellent

made "clean" at record low cost



Only product of its kind ever developed (not a tint, paint or dye)...
FAB-SPRAY does for the inside of used cars what a new paint job does
for the outside. Dealers report getting \$50 to \$100 more per used
car easily after quick "once-over" FAB-SPRAY application

One Quart sprays average Sedan

Simple application

(no masking) with spray gun
brings new-car glamor to
entire auto interior —

HEADLININGS
KICK PADS • CARPETS
UPHOLSTERY • RUBBER MATS
DOOR PANELS • SEAT CUSHIONS

(Fab-Spray is ideal for refinishing Convertible Tops...also
running boards and tires. Simply apply with sponge.)

No special preparation: Brush or vacuum to re-
move loose dirt. Apply Fab-Spray without masking,
remove overspray from mouldings, windows, etc.,
with cloth. Surfaces dry within a few hours, de-
pending on humidity.

WIDE COLOR CHOICE

Mix any desired shade from complete assortment of
basic Fab-Spray colors (which include black, white,
clear, aluminum). Or use standard Fab-Spray blue,
green, tan, brown, etc. Two-tone effects are easy
and smart.



USED CAR SHOPPERS *like what they see*
inside a car refinished with Fab-Spray.
Dealers close deals more easily . . . in-
crease profit per car . . . speed inventory
turnover!

Anyone can apply Fab-Spray — no
high-cost, "expert" labor is required.
Working time per car averages one hour.
A single quart (\$2.25 cost to dealer)
reconditions completely the average
sedan interior.

Automotive jobbers are now distrib-
uting Fab-Spray. Contact your local
jobber or factory direct for immediate
shipment or additional information.

Fab-Spray is a unique, thoroughly
tested and proved product of scientific re-
search. Get Fab-Spray and profit with it!



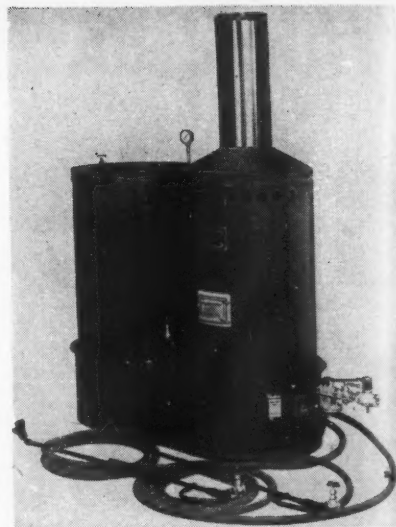
FAB-SPRAY is a product of HENDERIZE, Inc.
Home office at 5667 Freeport Blvd., Sacramento, California

mote control box. It steers straight in forward speed and curves in reverse.

422. Steam Cleaner

Chem-Therm Manufacturing Co. announces a new, completely automatic steam cleaner for both large and small auto laundries.

Known as the Chem-Therm Model XLA, this new unit is gas-fired and has a 180 gallon per hour capacity. It is equipped with two guns with instantaneous shut-off and control at each nozzle, a feature that is claimed to save 1/3 to 1/2 on both gas consumption and cleaning compound. The manufacturer also claims that with



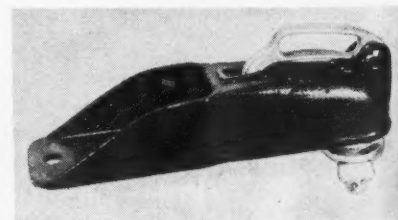
the new Model XLA, no hand operations nor pre-brushing is required on white sidewall tires, wheels, bumpers, grills and that only one compound is needed. Chem-Therm D-3 Compound is recommended for use in this new auto laundry.

423. Chrome Cleaner

Howard Smith & Company is marketing a new chrome cleaning compound known as Slik-Trik Chrome Cleaner, to be retailed through service stations, garages and car dealers. This product is a powder compound which may be used on a wet cloth or mixed with a small quantity of paste. In addition to cleaning chrome, Slik-Trik is said to dissolve rust and protect chrome finishes.

424. Tractor Hitch

Texas Foundries is manufacturing the Texhitch Trailer Coupling, which features a positive lever-locking principle designed to as-



sure a tight connection regardless of wear. Ease of operation is not affected by rust or grit, according to the manufacturer. A safety latch prevents handle from working loose and a hole is provided to permit the use of a padlock. Load capacity is 6000 pounds.

BETTER! SAFER! MORE PROFITABLE!

FOR ALL HYDRAULIC BRAKE LINE REPAIR and REPLACEMENT JOBS

...USE...

BUNDYFLEX

Original Equipment

BRAKE LINES

COPPER-FUSED
TIN-COATED

(See Special FREE Offer below)

MAKE EXTRA PROFITS

With This Colorful No. 475 Display Assortment of Fast Selling Brake Lines

No More Guesswork and Extra Labor on Brake Line Replacement Jobs!

No More Hunting for the Right Tubing and Fittings!

No More Tube Cutting and Flaring!

Because it is vitally important that hydraulic brake lines stand up under severest punishment, all car and truck manufacturers have standardized on BUNDYFLEX copper-fused, tin-coated metal brake lines for over 20 years.

No. 475 Display Assortment contains 4 each of the 6 fast selling 3/16" O. D. BUNDYFLEX lines that fit 85% of all cars, trucks, farm tractors, etc...12", 20", 30", 40", 51" and 60" lengths. Easy to combine into longer lines. Metal sign and display rack included, without charge.

SPECIAL FREE OFFER
Six 3/16" O.D. lines in assorted popular lengths, for latest car models, FREE with every No. 475 Display Assortment, if you order before November 1st.

STOP
BUNDYFLEX
HYDRAULIC BRAKE LINES

No. 475
DEALER PRICE, ONLY \$11.85

STANDARD EQUIPMENT OVER 20 YEARS

FORD
MERCURY
LINCOLN
CHRYSLER
DODGE
DE SOTO
PLYMOUTH
CHEVROLET
PONTIAC
OLDSMOBILE
BUICK
CADILLAC
PACKARD
KAISER
FRAZER
HUDSON
NASH
STUDEBAKER
WILLYS
CROSLEY

• • •
DIAMOND-T
FEDERAL
G.M.C.
INTERNATIONAL
JEEP
MACK
REO

Both Ends Double-Flared, with Fittings Attached, Ready for Installation.

MAIL COUPON TODAY

Both Ends Double-Flared, with Fittings Attached, Ready for Installation.

EVERHOT PRODUCTS CO.

2001-9 W. CARROLL AVE. CHICAGO 12, ILLINOIS

EVERHOT PRODUCTS CO. DATE.....

2001 W. Carroll Ave.
Chicago 12, Illinois

Ship us 1 No. 475 Display Assortment of BUNDYFLEX Brake Lines, at Dealer Price of \$11.85 each. Include the 6 popular lengths of 3/16" O.D. brake lines free.

NAME.....

ADDRESS.....

CITY.....STATE.....

JOBBER'S NAME.....

CITY.....STATE.....

LOOK AT THIS MARKET



18 Million car owners are pre-sold on Moraine Engine Bearings

More than 18 million car and truck owners—nearly half the owners of all registered vehicles—are *pre-sold prospects* for Moraine Engine Bearings . . . original equipment on all General Motors cars and trucks. Owners are pre-sold because they know they can depend on Moraine bearings for *better performance* for a longer time.

IF YOU THINK THAT'S GOOD
LOOK AT THIS!

New and different

DUREX-100

THE BEARING HIGH COMPRESSION DEMANDED

Original Equipment on Cadillac, Buick, Oldsmobile, GMC, and other leading makes of cars and trucks

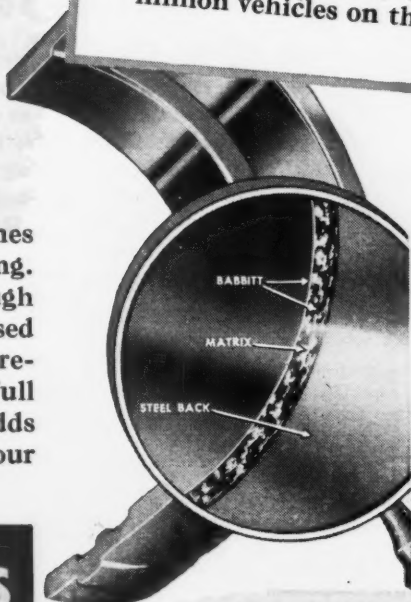
Today's high-speed, higher-compression engines call for an entirely new kind of engine bearing. DUREX-100 is that bearing . . . a bearing tough enough to withstand the tremendously increased loads imposed by today's stepped-up requirements. The addition of DUREX-100 to the full Moraine Original Equipment Bearing Line adds owners of high-compression engine cars to your list of pre-sold replacement prospects.

The new Moraine Market is even bigger

Moraine now makes available replacement bearings for other makes of cars and trucks. You can stock Moraine Engine Bearings and supply top-quality replacements for most of the 35 to 40 million vehicles on the road.

THE MATRIX MAKES THE DIFFERENCE

Steel-backed middle layer (or matrix) of porous copper-nickel bonds mechanically and metallurgically with babbitt overlay to give increased embedability and greater resistance to fatigue.



8 ways better!

1. Greater Resistance to Fatigue
2. Increased Load Capacity
3. Greater Conformability
4. Better Embedability
5. Stronger Bond
6. Greater Resistance to Scoring
7. Greater Resistance to Corrosion
8. More Durability

MORaine PRODUCTS

DIVISION OF
GENERAL MOTORS
DAYTON, OHIO



A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

Readers Clearing House . .

Continued from page 57

found no dirt. We filled the block with 20 per cent hydrochloric acid for a day, but still no dirt appeared. Then we rebuilt the water pump and put on new hoses and a new spring in the lower one to keep it from going together. Then we put in a new heat gage and timed the motor and set the cam angle. We took the cylinder heads

off and cleaned the water holes and installed new gaskets. Still no improvement. Submitted by: William Danzer, Danzer's Garage, Youngsville, New York.

We Suggest:

You have done a thorough job in trying to overcome this overheating problem and about all I

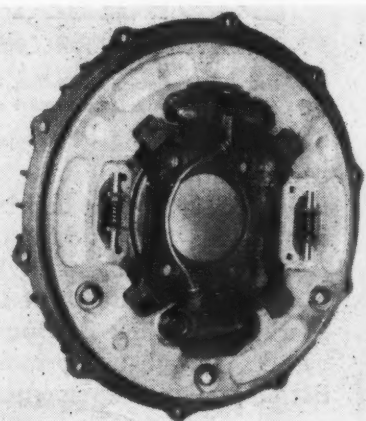
can add is to check the core to see if it is the original one as some replacements were made of steel and they didn't cool as well as copper. Also make sure the air isn't obstructed and that the fan blades have their proper pitch. If the car overheats while at idling speed, the cause could be due to a tight engine but if it overheats at high speed, the water circulation is poor or the core capacity isn't sufficient.

How the Chrysler Disc Brake Works

We have a 1950 Chrysler equipped with disc brakes which we service regularly and we were wondering how the brakes were adjusted on these models. Could you give us any information on this subject. Submitted by: A. C. Walters, 1728 Cherry Street, Phila., Pa.

We Suggest:

The brakes are self compensating and no service adjustments are provided. The brake consists of two flat pressure plates inside the flat brake housing with six steel balls placed between the plates in small sockets. When the brakes are applied the outer plate



is rotated by the two hydraulic cylinders with respect to the inner plate, and the balls are pushed with a rolling motion, out of the sockets and up into the small ramps in the plate. This forces the plates apart until they contact the inside flat surfaces of the rotating brake housing. The rotation of the wheels and the housing ac-

(Continued on page 166)

NEW ... and Better

BRIGHTER WARNING FROM EVERY DIRECTION. MAKE EVERY TURN A GOOD TURN WITH






CLASS A—TYPE 1 DIRECTIONAL SIGNALS and SETS




No. 2400 Set. Includes No. 212 Series lamps, brackets, flasher, switch and harness for easy installation. Other sets for all bus, tractor and trailer combinations.


LINE 'EM UP ... AND COMPARE VALUES —



205



225



O-110

Compare the streamlined design and durability of the Grote Marker Lamp and its plastic lens with any other you have used. Compare the brighter, safer light and the lower clearance of the Grote No. 225 clearance lamp. See the greater reflectivity of the Grote No. 110 long range reflector. Rigid comparison of appearance, effectiveness and economy has caused the largest truck operators to specify Grote Truk-Line safety lights and reflectors. Ask your Jobber. Send for the catalog of the complete Grote line.

D 212 R
Double-faced Class A Direction Signal. Amber lens for front lamp—red for rear. Uses only one 21-c.p. bulb.

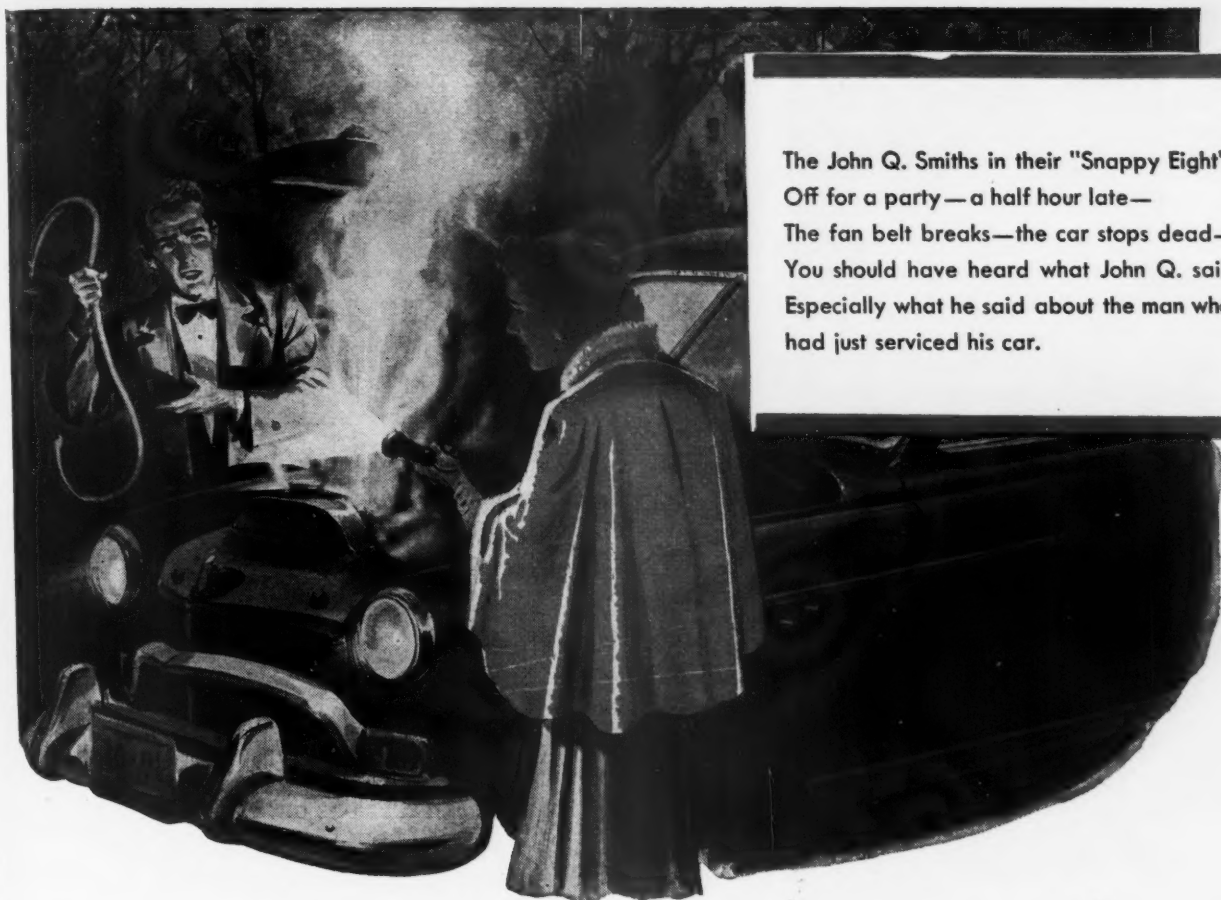


F 212 R

Mounts flush with the truck body panel. Takes little interior space. Singly or in complete Class A Sets.

THE **Grote** MFG. CO., INC.

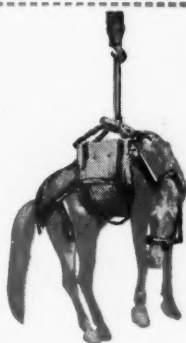
GROTE SQUARE
BELLEVUE, KY.
(Opposite Cincinnati)



The John Q. Smiths in their "Snappy Eight"
Off for a party—a half hour late—
The fan belt breaks—the car stops dead—
You should have heard what John Q. said—
Especially what he said about the man who
had just serviced his car.

Was This The Car You Serviced?

...or do you always replace the fan belt before it fails?



→ Everything hangs on the fan belt, cooling, ignition, lighting systems. A sure fire way to lose a customer's good will—and lose the customer, too—is to let a broken fan belt leave him stranded on the road.

To postpone replacing the fan belt is simply laying up trouble for the customer and yourself.

Make your replacements with Thermoid Fan Belts. As you know, inferior belts soon stretch, lose their grip, wear out quickly. But Thermoid Fan Belts are "a horse of a different

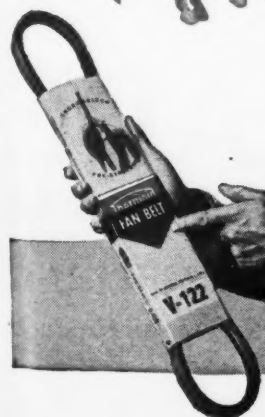
color." Thermoid Fan Belts come to you *pre-stretched* for a longer life of more dependable service.

Thermoid Company • Trenton, New Jersey

Tell Your Customers These Facts About Fan Belts

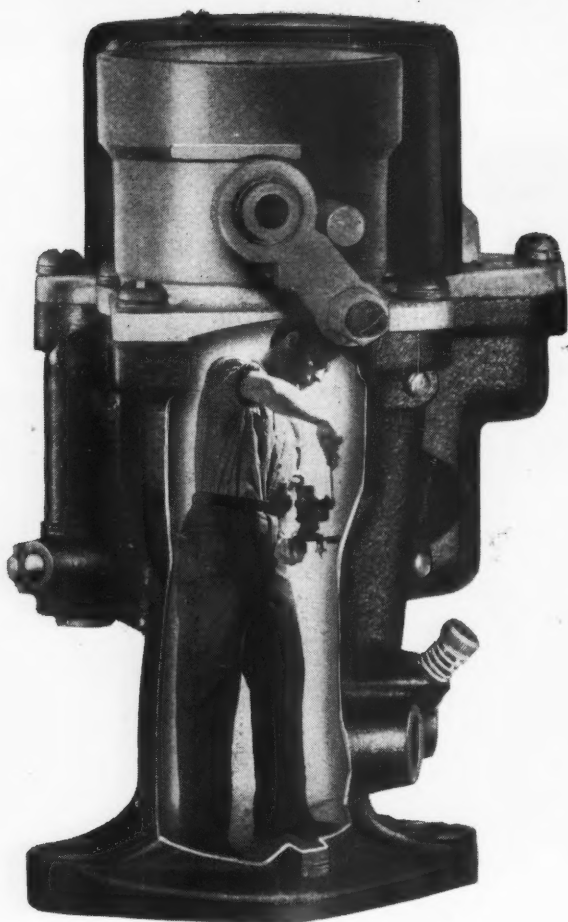
A fan belt takes an awful beating from oil, grease, engine heat and just plain wear.

Automotive engineers advise playing safe by replacing fan belts every two years, or every 20,000 miles.



Thermoid

Brake Linings • Fan Belts • Radiator Hose • Hydraulic Brake Parts and Fluid • Car Mats • Clutch Facings • Thermoid Precision Process Equipment



He's making money in there!

Look what happens to you when you take on the Hygrade Fingertip System of Carburetor Rebuilding:

A complete sales promotion program in your locality builds you up as "the shop that knows carburetors inside out".

Ads in Popular Science and Popular Mechanics mean that one out of 6 car-conscious men will be looking for your shop — the Hygrade System Shop.

You get everything you need to rebuild all carburetor makes, right in your own shop: the famous Hygrade Manual, tools, instruments, kits.

These Hygrade-System Shops say:

"... it pays to know carburetors inside-out"



"The Hygrade System does just what the advertising says" reports H. C. Wilson, San Bernardino, California



"It's a good business builder because I save customer's time" writes Julius Ferran from Coyote, New Mexico



"Carburetor jobs up 60%; bench time down 50%," says Al Gross, Al's Repair Shop, Philadelphia, Pa.



"It boosts my reputation because one customer tells another" reports Bill Picone, Houma, La.

It's easy to become an expert:

With the revolutionary Hygrade System, you'll be able to rebuild a carburetor the first time you try, and after 5 or 6 jobs, you'll be expert at it.

Interested? Just write "FINGERTIPS" on your letterhead, billhead or business card and mail to: HYGRADE, 37-18 Northern Boulevard, Long Island City 1, New York.

HYGRADE FINGERTIP SYSTEM OF CARBURETOR REBUILDING

by the makers of Blue Streak Ignition Products

**REDUCED
car production
means
INCREASED
car repairs!**

**Get new shop equipment NOW
pay for it LATER with AEP**

● As an automotive repairman, you have the *responsibility* of helping keep the nation's cars in good repair during this period of reduced car production.

At the same time you have the *opportunity* to increase earnings by equipping your shop to get and do the bigger and higher profit jobs . . . Ask your jobber how you can install shop equipment now, pay for it later with AEP.

ONE CONTRACT • ONE COST • INSURANCE INCLUDED

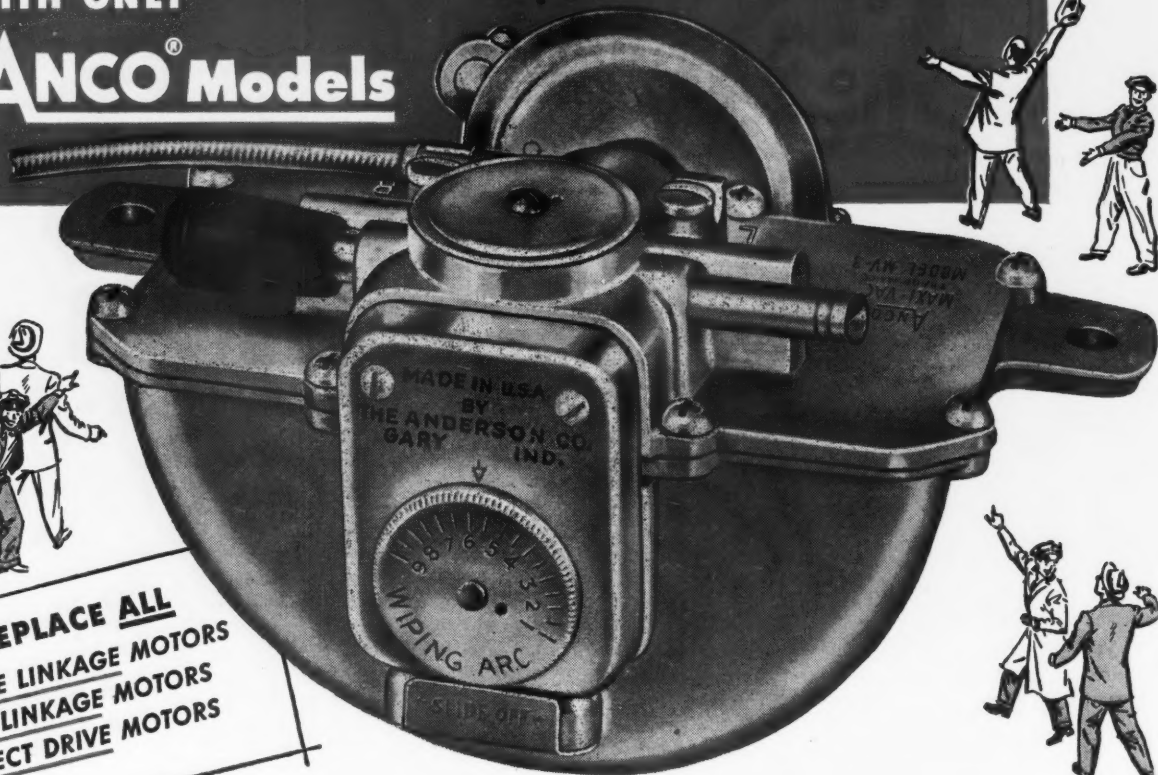
**COMMERCIAL CREDIT
CORPORATION**

A subsidiary of Commercial Credit Company, Baltimore
...Capital and Surplus over \$100,000,000...offices
in principal cities of the United States and Canada.

Complete Replacements

for ALL Vacuum Windshield Wiper Motors*
WITH ONLY

6 ANCO® Models

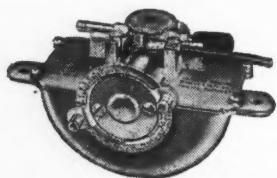


* REPLACE ALL

- CABLE LINKAGE MOTORS
- BAR LINKAGE MOTORS
- DIRECT DRIVE MOTORS

MAXIMUM SERVICE with MINIMUM INVENTORY

Now only six models Anco Windshield Wiper Motors replace all original equipment vacuum motors on all vehicles 1935 and later models—(except only a few very rare and long obsolete vehicles).



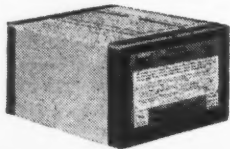
OPEN STOCK

All Anco Motors—as well as Anco Blade and Arm products—may be ordered . . . in any quantity needed . . . from open stock.



MOTOR SERVICE CABINET

This all-metal cabinet contains an "organized" stock of everything required for dealer's full-range service. Cabinet may be used separately or combined with Anco All-Car Service Windshield Wiper Blade and Arm Cabinet making a complete windshield wiper service department.



KOVERS-ALL MOTOR SERVICE SET-UP

This factory-sealed carton starts dealer with everything required for full-range service.

BONDED

... to please owner as long as he keeps the car on which installed . . . Lots more power . . . Lots less stall . . . Adjustable blade travel setting compensates for linkage wear and prevents blade slapping against edge of windshield.

THE ANDERSON COMPANY

GARY, INDIANA

Makers of Accepted Automotive Products Since 1918



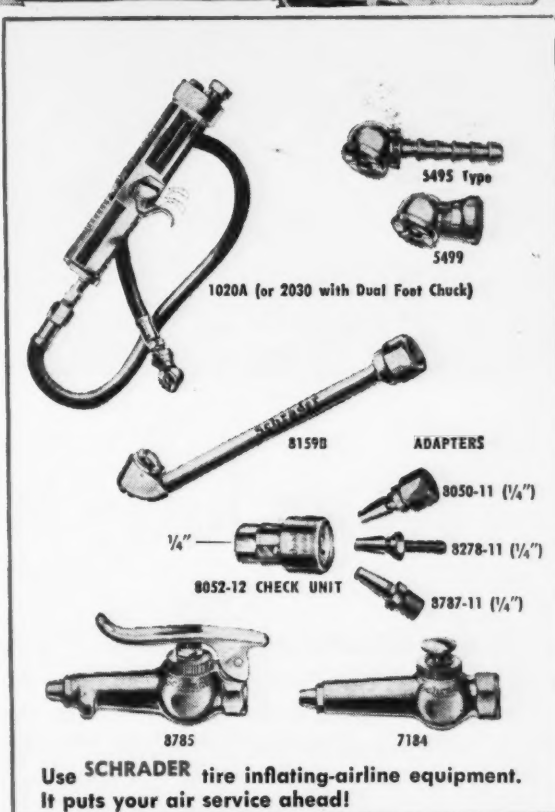
Make Certified Air Service your ticket to PROFIT

Thousands of dealers actively participating in Schrader's Certified Air Service Plan like this new idea in "sales-thru-service". It builds customer volume and goodwill . . . as well as profit.

Find out first hand how this timely new service idea, based on the application of the easy-to-follow "5-3-0" heat build-up formula, can help you in your daily customer contacts . . . get the specially low-priced Schrader #530-U "Certified Air Service" Merchandising Unit. It contains the products, signs and instructions, including the finest Schrader Gauge (#8106B Trutest Special), 50 #880MB Valve Caps, 50 #4000 Valve Cores, 5 #5050 Gauges and the new Manual that shows how to start to profit the easy way. Get your #530-U Merchandising Unit from your supplier today!

A. SCHRADER'S SON, BROOKLYN 17, N. Y.
Division of Scovill Manufacturing Company, Incorporated

Schrader
REG. U. S. PAT. OFF.



Schrader
#530-U
Merchandising
Unit



FIRST NAME IN TIRE VALVES
FOR ORIGINAL EQUIPMENT AND REPLACEMENT



Which lamp is ready to burn out?

ONE of the General Electric "All-Glass" headlamps on the test car above has just been lighted for the first time. It's at the beginning of its life. The other G-E lamp . . . the one on the left . . . has been burning day and night for many, many months. Yet when the photo was taken it was impossible to see any difference in the light output of these 2 lamps!

That's because General Electric "All-Glass" headlamps give an average of 99% as much light just before burning out as when new. Both the lens and reflector of the G-E headlamp are made of hard glass, fused together into one piece. Road and laboratory tests

prove that this one-piece unit keeps out the dirt and moisture that might otherwise gradually rob the lamp of light output.

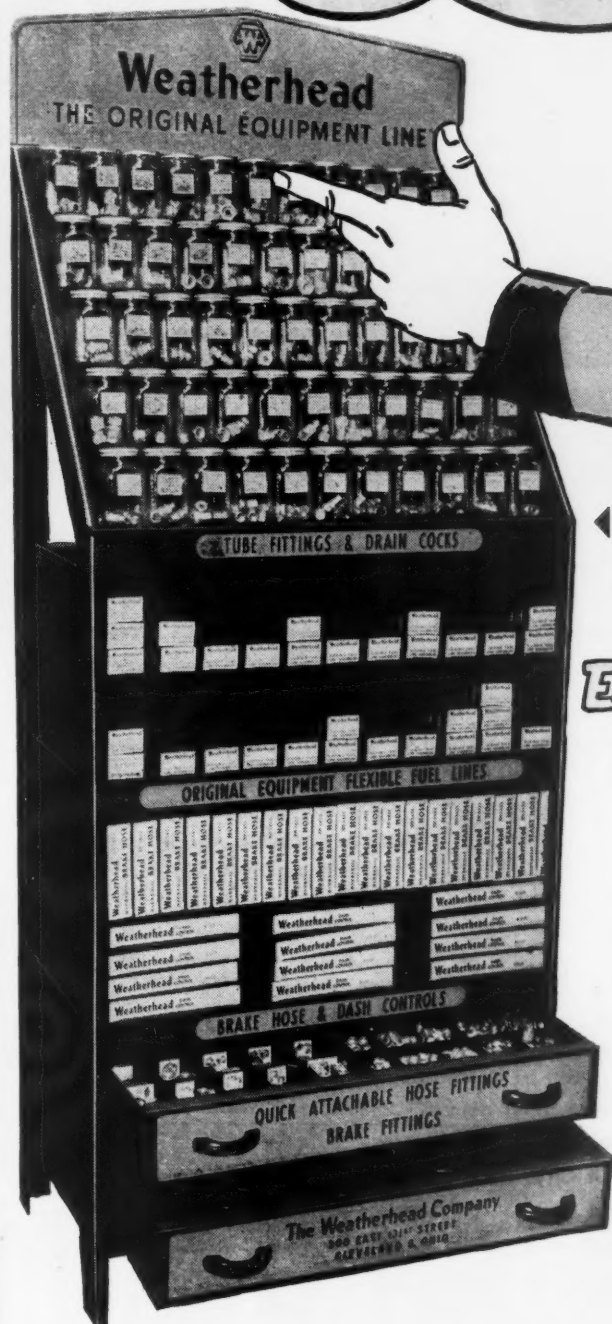
Because they DO NOT GROW DIM, G-E "All-Glass" headlamps mean easier, SAFER night driving. Use them to replace burnouts during the summer driving months! Ask your supplier about General Electric "All-Glass" headlamps today!

**G-E "All-Glass" Headlamps
DO NOT GROW DIM!**

GENERAL  ELECTRIC

CAPT. EASY Says:

CAR DEALERS AGREE —
JOBS GO **EASY** WHEN
YOU HAVE THE RIGHT
FITTING ON HAND!



◀ G-400 Salesmaker— parts
for every make of car,
bus, truck and tractor.

EASY to sell

EASY to stock

EASY to identify

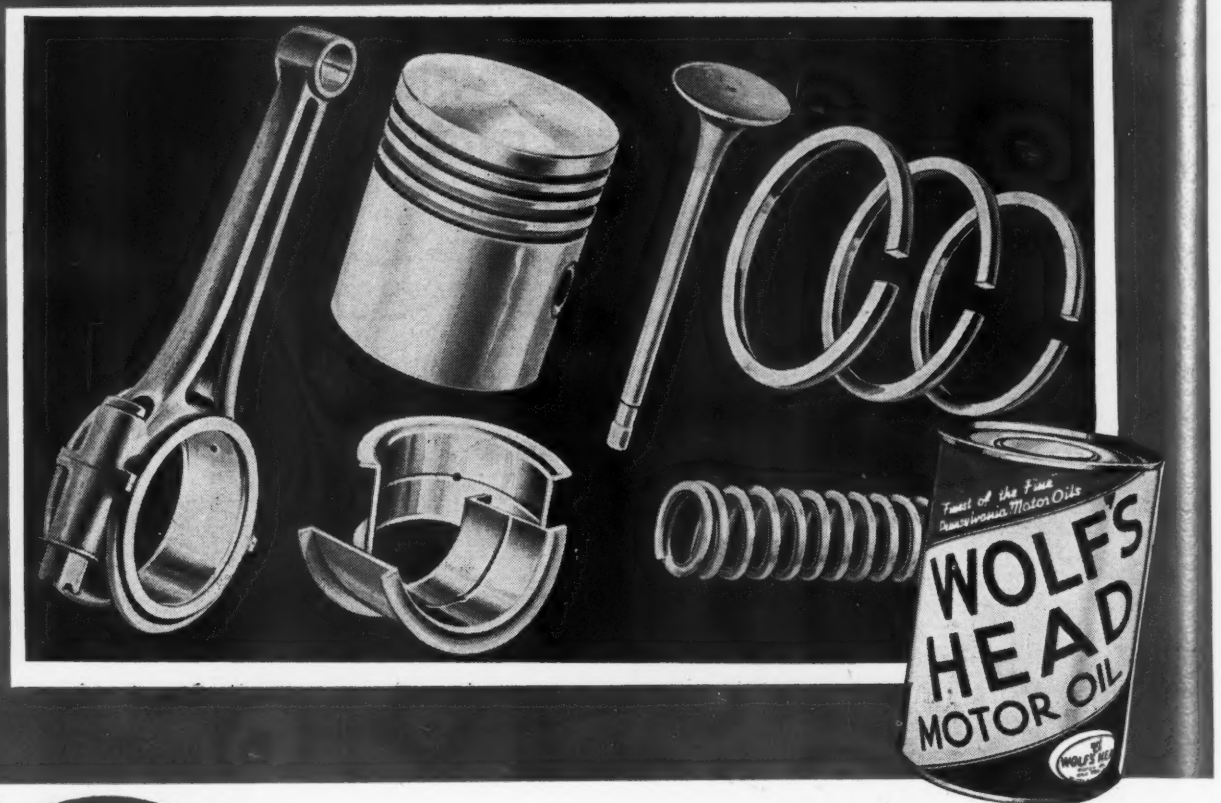
EASY to install

FREE latest Weatherhead Catalog ... completely illustrated
... shows all fittings, all Salesmakers. Full details including
catalog numbers, interchange numbers, fittings sizes. Address:
Dept. D, The Weatherhead Company, 300 East 131st Street,
Cleveland 8, Ohio.

The **EASY** line to handle is...



PICTURES OF PERFECTION



IT PAYS
TO BE
PARTICULAR
ABOUT YOUR
OIL

CARS don't wear out! The parts do. And in every engine, more than 300 precision-made parts . . . machined to hairline accuracy . . . depend entirely upon a microscopic film of oil for protection against friction, excessive wear, heat, corrosive acids.

Be sure that you recommend and sell the best protection that money can buy . . . WOLF'S HEAD Motor Oil—100% Pure Pennsylvania, "Premium Grade." WOLF'S HEAD, made from nature's finest crude, is refined three steps further than ordinary oil:

- 1 **THOROUGHLY DEWAXED**—flows freely at all temperatures and gives instant, full-bodied lubrication.
- 2 **DOUBLE-DISTILLED**—free from impurities that cause excessive oil consumption, sludge, undue wear.
- 3 **TRIPLE-FILTERED**—highly resistant to sludging and oxidation. Non-corrosive to bearings. Won't thin out at high temperatures or get sluggish at low temperatures.

WOLF'S HEAD means the "Finest of the Fine" to millions of motorists everywhere!

Free! "Rules-of-the-Road" Folder. Contains safety hints, speed laws, driving regulations for all states. Write for a copy.



Wolf's Head Oil Refining Co., Inc., Oil City, Pa., New York 10, N. Y.

WOLF'S HEAD

MOTOR OIL AND LUBES

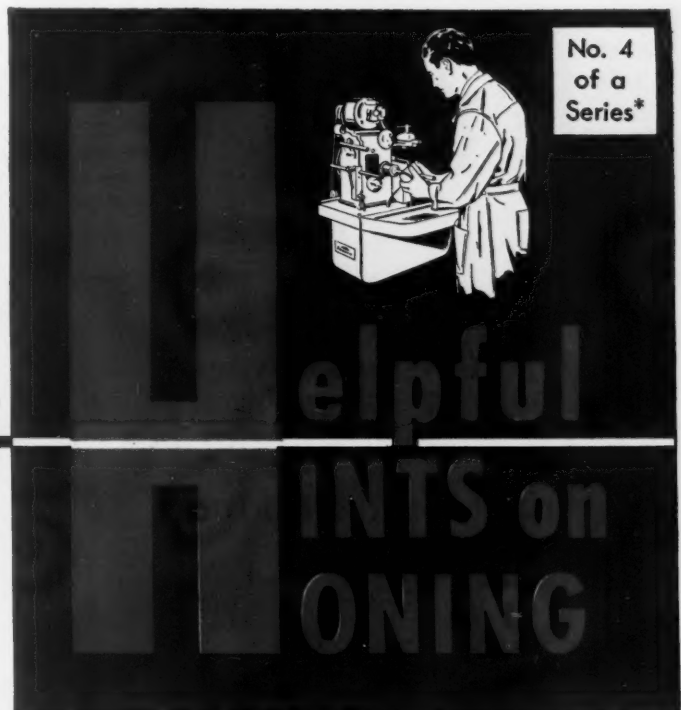
100% Pure Pennsylvania
"Premium Grade"



Member, Penna. Grade
Crude Oil Association

**HOW YOU CAN DO
THE MOST JOBS
...in the Least Time
...at the Lowest Cost
with Your**

SUNNEN Honing Machine



Be Sure to Set the Controls Right.

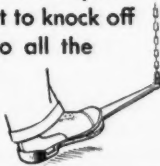


Use the pin fitting gage to measure stock to take out. Set the Feed Dial Accordingly. Use the recommended cutting pressure—heavy for roughing out lots of stock, light for finishing to size.

*This series of advertisements is designed to help users of Sunnen equipment conserve materials and manpower.

Go Easy on the Foot Pedal.

"Tromping down" on the pedal causes the stone to "bite" too fast—may actually damage the stone in rough or out-of-round holes. Depress the pedal slowly at first to knock off the high spots, then go all the way. Make sure that crank arm contacts stop pin.



Always Use Sunnen Honing Oil.



It's especially blended for best honing results. Inferior honing oils or substitutes may cause galling or stone glazing and slow the job—may even ruin the work. Use only Sunnen Honing Oil.

Get your free copy from your Sunnen Jobber or write direct.

Follow these suggestions to do the job faster and eliminate waste. New, free booklet, "Sunnen Service Hints," gives you many additional tips to help you save time and materials with your Sunnen equipment and supplies.

Sunnen Products:

Bushing Grinders • Cylinder Grinders • Crankshaft Grinders •
Bearing Sizers • Rod Aligners • Service Tools



SUNNEN PRODUCTS COMPANY

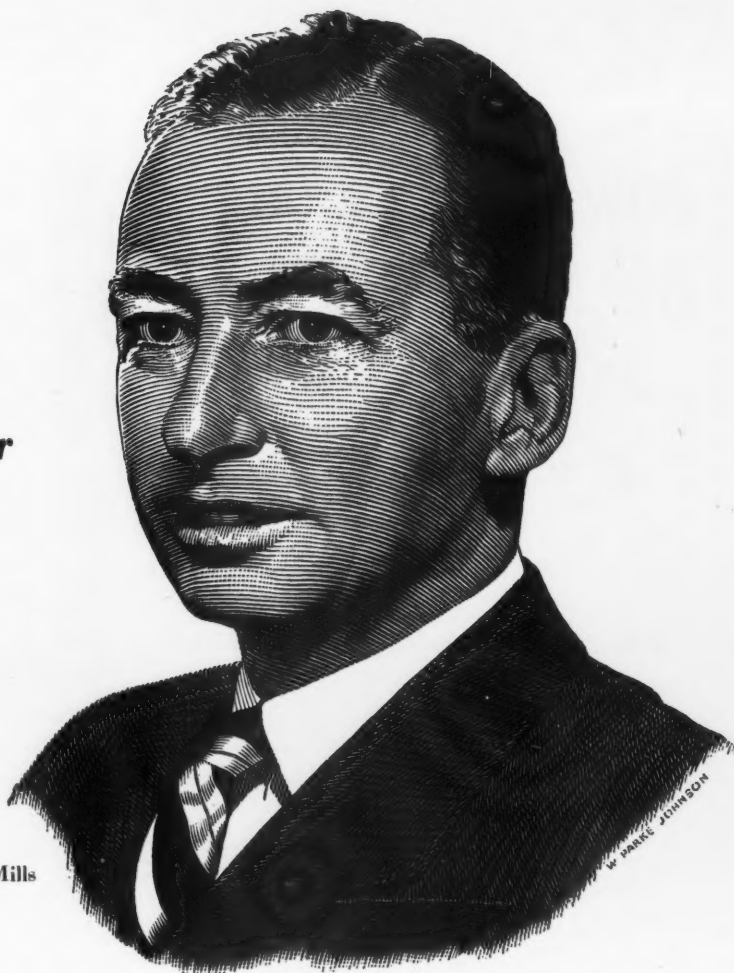
7918 Manchester Ave., St. Louis 17, Missouri

• Canadian Factory: Chatham, Ontario

***"Some 15,000 employees
in all branches of our
organization are taking
advantage of the
Payroll Savings Plan..."***

SPENCER LOVE

Chairman of the Board, Burlington Mills



"The Payroll Savings Plan is one of the important personnel services offered to the employees of our company. At the present time some 15,000 employees in all branches of our organization are taking advantage of this splendid plan for systematic savings. In times of national emergency this plan assists in stabilizing the economic life of the employee, the community and the nation."

Last call for the 1951 Defense Bond Campaign!

While the campaign was scheduled for six weeks, beginning Labor Day, the *accounting period* will include all Payroll Savings Plan bond purchases and enrollments in September and October.

If you haven't conducted a person-to-person canvass to put a Payroll Savings Blank in the hands of every man and woman in *your* company there is still time to join the thousands of companies which have added nearly a million employees to the Payroll Savings Plan through person-to-person canvasses.

Phone, wire or write to Savings Bond Division, U. S. Treasury Department, Suite 700, Washington Building, Washington, D. C. Your State Director will give you all the help you need—application blanks, posters, envelope stuffers, personal assistance.

Give your employees an opportunity to save for their fu-

ture and at the same time, help to maintain America's economic security—put an application blank in their hands.

Results of a few recent person-to-person canvasses

Firestone Tire and Rubber Company (40,000 employees), 87% participation; Universal Atlas Cement Company, 67.8% of 4,789 employees... Martha Mills, 71% of 2,200 employees... Lit Brothers, 52% of 3,600 employees... Delta Air Lines, 65% of 2,100 employees; Aerojet Engineering Corporation, 78.1% of 2,000 employees... Brown-Lipe Chapin Division of General Motors, 87% of 1,750 employees; Fabricast Division, General Motors, 85% of 1,700 employees.

Person-to-person canvasses now under way include:

	Number of Employees
38 Major Railroads	993,142
Radio Corporation of America	40,000
Owens-Illinois Glass Company	25,000
Cudahy Packing Company	17,000
Pacific Gas and Electric	17,000
Willis-Overland	6,750
Owens-Corning Fiberglas Corp.	6,500
White Motor Company	6,500
Fruehauf Trailer Company	5,700

The U. S. Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

MOTOR AGE



DeVILBISS



AID TO BETTER REFINISHES

DeVilbiss equipment is designed and built to give you better, more lasting refinishes. Today, the vast majority of vehicle manufacturers use DeVilbiss equipment. We'll gladly give you helpful data on duplicating their fine, factory-quality finishes in your shop. Write today.



O. A. Chillson, veteran head of Chieftain Pontiac, active aggressive Indianapolis car dealer, features the car appearance service shown above in ads, radio and TV.

AN ENTERTAINING SHOW THAT SELLS MORE REFINISHES

This midwest automobile agency is profiting two ways with this DeVilbiss Showroom Spray Booth.

First, customers (and prospects) enjoy watching vehicles being refinished, are attracted by the well-illuminated interior, clean working conditions. They see for themselves the fine results obtained in a DeVilbiss Spray Booth. This is good advertising any way you look at it.

Second, this customer-pleasing service, in turn, results in increased paint shop business and increased profits.

A DeVilbiss-equipped paint department is one of the best investments you can make in your business. You'll find DeVilbiss equipment will help you refinish vehicles better, faster, at lower cost . . . with more profit per job and professional results every time!

For complete information about quality DeVilbiss products — Spray Equipment, Air Compressors, Exhaust Systems, Hose and Connections — contact your nearest DeVilbiss Branch Office or distributor.

THE DEVILBISS COMPANY Toledo, Ohio

Windsor, Ontario • London, England
Santa Clara, Calif.

Branch Offices in Principal Cities



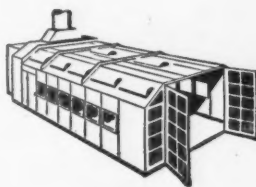
Air Compressors



Hose and Connections



Spray Guns



Spray Booths

FOR BETTER SERVICE, BUY

DeVILBISS



Gasket Right to insure Praise-Winning Jobs!



Follow these **3**
approved procedures
BEFORE
replacing
HEAD GASKETS!

No. 1. Clean Bolts and Studs!

Make sure that bolt and stud threads are perfectly clean before using them. Give them a good wire brushing to remove all traces of rust and carbon. Dirty threads make studs and bolts hard to turn and will give false torque readings when the head is replaced. A dirty bolt can throw torque readings off as much as 20 pounds or more. Gasket failure can quickly result from such improper tightening of the head.



No. 2. Use Thread Compound!

Too few mechanics realize the importance of coating threads of bolts and studs entering the water jacket with waterproof thread compound. This simple precaution will prevent rusting and corrosion of bolts and studs and make removal and installation faster and easier. Use any good waterproof thread compound, of a non-hardening type, such as FEL-PRO C-5, and cover thread ends of bolts and studs completely.



No. 3. Chamfer Bolt Holes!

Here's another of those easy-to-overlook steps that can mean the difference between long gasket life and early gasket failure. Inspect bolt holes carefully, especially if the block has been refaced. If the threads run up to the surface, chamfer the hole slightly so that threads will not be drawn above surface when bolts are tightened. This slight irregularity is often enough to cause early gasket failure.



REMEMBER—Always use new FEL-PRO Gaskets—never install a used gasket no matter how good it looks, a few pennies saved may mean lost customers and expensive come-backs.

Gasket Right with **FEL-PRO** Gaskets!



"Little Drips"
disappear when you
Gasket Right
with FEL-PRO!



For over 30 years, FEL-PRO has supplied many of the nation's leading car factories with original equipment gaskets. You can be sure that every FEL-PRO Gasket you use is made to match or excel original equipment in FIT, QUALITY and PERFORMANCE! Guaranteed to give long service and full satisfaction. That's why it pays to specify FEL-PRO!

FELT PRODUCTS MFG. CO., 1521 Carroll Ave., Chicago 7, Illinois
FAST SERVICE ASSURED By Warehouses Near You—ATLANTA, BOSTON, NEW YORK, LOS ANGELES, OAKLAND, PORTLAND

SUN
makes it easier
for you



... to sell 'em and keep 'em sold



Service sales come a lot easier when you use SUN Scientific Testers to show customers the need for repairs. With SUN Master Motor Testers you can show them what needs to be done and give them accurate estimates. A SUN Test of completed jobs assures you and your customers that each job is done right. That means customer goodwill that pays off for years to come. SUN's "Dollars from Diagnosis" Booklet shows how to make your business more efficient, more profitable. Write for your complimentary copy TODAY!

ELECTRIC CORPORATION

DEPT. A, 8353 AVONDALE AVE.
CHICAGO 31, ILLINOIS

R5540



*Advance . . .
and be recognized!*

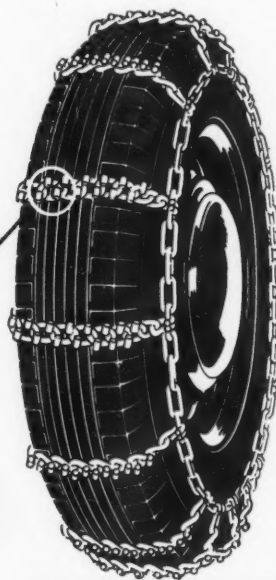
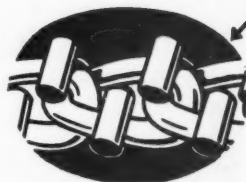
**McKAY is the
ONE SURE WAY
to more
TIRE CHAIN SALES**

McKAY Multi-Grip TIRE CHAINS

Give **"TWICE THE ROAD BITE"**
of any other Tire Chain

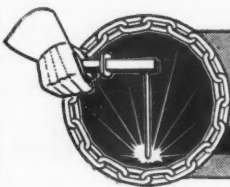
Here's why

- ① 312 Gripping Points Dig Into Ice & Snow
- ② 156 Links Have 2 Case-hardened Cross Bars Each for More Wear
- ③ More Surface Contact for More Road Grip



OTHER McKAY PRODUCTS

- McKay Metal-Fil
- McKay-Rod Electrodes
- Mild and Stainless Welding Electrodes
- Industrial and Commercial Chain



THE McKAY COMPANY
PITTSBURGH, PA.

WELDING ELECTRODES COMMERCIAL CHAINS TIRE CHAINS

See your jobber
for
McKay Chains
Now!

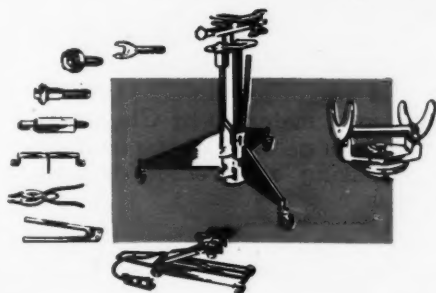
462 McKAY BUILDING

PITTSBURGH 22, PA.

No Danger of **DAMAGING** parts when you use

KENT-MOORE

SPECIAL SERVICE TOOLS



NOW! IMMEDIATE DELIVERY ON KENT-MOORE SPECIAL SERVICE TOOLS FOR "HYDRA-MATIC" TRANSMISSIONS!

Now . . . right now . . . you can start cashing in on the ever-expanding volume of profitable "Hydra-Matic" Transmission service work. Because now, in spite of material shortages, you can get immediate delivery on all the Kent-Moore Special Service Tools you need to perform complete factory-approved service on all cars equipped with "Hydra-Matic" Transmissions. So get set now for extra profits. Write today for Kent-Moore's 8-page, fact-filled Tool Guide for "Hydra-Matic" Transmissions!

One thing you can be sure of when you use Kent-Moore Special Service Tools . . . *you won't wind up "in the red" on the job due to accidental damage or breakage of parts.* For you see, Kent-Moore Tools are by no means "Special" in name only. They're "Service Engineered" tools . . . developed in close co-operation with leading automobile manufacturers to meet essential service requirements for which no adequate standard tools exist. Each one is designed to perform a specific repair operation in accordance with factory-recommended standards and procedures. And each one is built to do its particular job quickly, easily, accurately . . . without danger of damaging parts . . . and at lower cost than is possible by means of improvised makeshift methods.

Kent-Moore's Composite Tool Guide lists all the essential Special Service Tools you need for more efficient, more profitable service on nine leading makes of cars. Send for your copy today.

Kent-Moore ORGANIZATION, INC.

3-105 GENERAL MOTORS BUILDING • DETROIT 2, MICHIGAN

Sales and Service Engineering Representatives in Principal Cities Coast-to-Coast



Engineers and Manufacturers of Special Automotive Service Tools and Equipment

Help Customers Hold Off



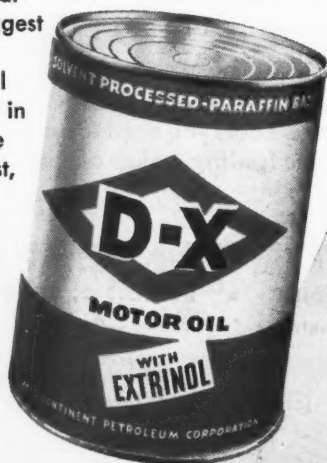
Recommend

D-X MOTOR OIL with Extrinol

This year, many of your customers' cars will pass their 3rd birthday—the "repair age." You can help them—and all your customers—avoid costly repairs by recommending wear-saving, guaranteed D-X Motor Oil with Extrinol.

Extrinol is the "extra" that helps D-X keep motors cleaner, protect bearings and fight sludge. It makes D-X a better oil for all cars—particularly those near the "repair age."

You'll find that D-X is a profitable oil for your service department, too. This year D-X is backed by the biggest advertising campaign in its history. Motorists will want it—and you'll cash in on the demand. If you're located in the Middle West, write for information about the profitable D-X Franchise for car dealers.



**MID-CONTINENT PETROLEUM CORPORATION
TULSA, OKLA.**

Waterloo, Ia. Terre Haute, Ind. Omaha, Nebr.
Chicago, Ill. Minneapolis, Minn.



Made only by CHAMPION DEARMENT

On almost every repair job in the garage you use pliers—and where pliers are used you Need Channellock.

Channellock pliers are designed to give longer Service and more efficient operation. The patented Channellock principle permits a wide range of sizes without loss of grip or leverage. They are made of strongest materials by Champion DeArment who for nearly 3/4 of a century have been making and selling highest quality tools.

If you are working on cars you use pliers—and if you use pliers You Need Channellock.

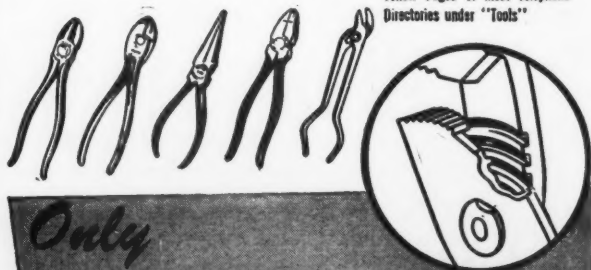
Remember, **ONLY** Champion DeArment makes Channellock.

Send for Catalog D8 today.

CHAMPION DEARMENT TOOL CO.

Meadville, Pa.

Channellock pliers are listed in the Yellow Pages of most Telephone Directories under "Tools"



Only

CHAMPION DEARMENT makes...

CHAN NEL LOCK

TRADE MARK REG. U. S. PATENT OFFICE

Everyone...yes
everyone will buy
CASCO
 accessories this fall!



CASCO SPOTLIGHTS

FINEST MADE! INNER CONTROLLED!
 Powerful sealed-beam light turns in a complete circle. Smart, streamlined design... heavily chrome-plated.

JUNIOR: No. S40 Thru-the-Post
 No. S35 Thru-the-Door **LIST \$17.50**
STANDARD: No. S41 Thru-the-Post
 No. S36 Thru-the-Door **LIST \$18.00**

(Standard Models also available for 12 volts)



CASCO GLASS WINDSHIELD DEFROSTER

SAFE! SURE! PROFITABLE! Exclusive Switch Control plug provides positive "on and off" heat control. Defroster, 8" x 16", works wonders in sleet, ice, snow and fog.

No. A-15 for 6 Volt Systems **LIST \$4.00**
 No. A-16 for 12 Volt Systems **LIST \$4.45**

CASCO 2-SPEED 6" RUBBER-BLADED AUTO FAN

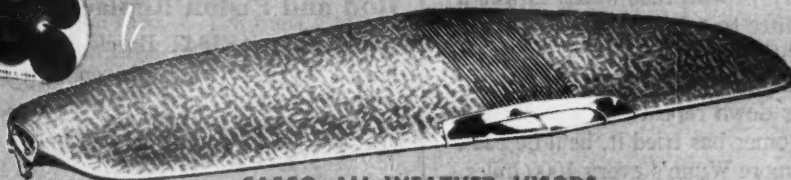
QUIET! DEPENDABLE! Fans have chrome plated metal trim and swivel arm. Motor case is die-cast, has universal mounting brackets for quick, easy installation.

No. F-11 (6 volt) **LIST \$5.50**
 No. F-12 (12 volt) **LIST \$9.50**

CASCO HUB REPLACEMENT ASSEMBLY

TREMENDOUS NEW MARKET EVERY DAY. Worn out fans of every make are replaced daily with the reliable CASCO Hub Assembly. Merchandising package includes 6 Hub Assemblies — each 3 mounted on display card.

No. F-14 **LIST \$2.00**



CASCO ALL-WEATHER VISORS

WORLD'S BIGGEST SELLER! ONE MODEL FITS 90% OF ALL CARS! Aero-aluminum, finished in satiny pearl gray Hammerloid enamel, with beautiful chrome brackets and trim. Can be repainted, if desired.

V-15 series **LIST \$21.95**

CONSISTENT NATIONAL ADVERTISING

In great mass magazines like the Saturday Evening Post, makes CASCO a familiar name to your customers.

THE SATURDAY EVENING
POST

DEPENDABLE PRODUCTS FOR OVER A QUARTER CENTURY



CASCO PRODUCTS CORP., BRIDGEPORT 2, CONNECTICUT

ADD THIS PRODUCT



EVERY OIL CHANGE



FOR MORE PROFIT



NO MORE WORK

WYNN'S GIVES YOU AN EXTRA 35¢* CLEAR PROFIT ON EVERY OIL CHANGE

Try this on every oil change job: Tell your customers Wynn's boosts gas mileage 10% or more, reduces carbon and sludge, gives engines more power, less wear. Takes a minute to sell — means 35¢ extra profit for you — simply for opening a can of Wynn's. Best of all, Wynn's nails down repeat business. Once a customer has tried it, he'll be back for more Wynn's every 1000 miles.

*Based on national average profit.



P.S. Clear an extra 38¢ by adding Wynn's on every T&D job, too.

Wynn's Friction Proofing Oil
Azusa, Calif.

Clearing House . . . Continued from page 148

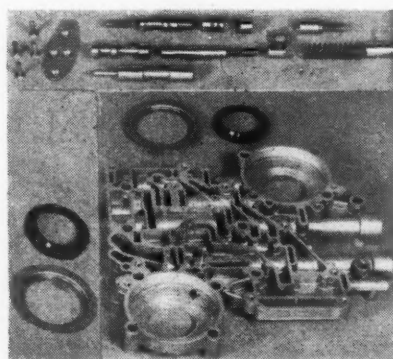
centuates this action with the balls acting as wedges further forcing the discs apart.

Automatic Transmission Problem on Packard

We have a 1950 Packard on which the automatic transmission doesn't seem to work right. It seems to drag in high range and in reverse. We adjusted the linkage and changed the lubricant. Submitted by: Neville Shea, 79 East Creek Road, Wilkes-Barre, Pa.

We Suggest:

Check the low band adjustment and it may be too tight. The low range piston may be jammed in the "on" position which should be freed up, or the timing valve may be stuck in the low range position, keeping the low band applied.



I would remove the control valve assembly. Disassemble the valve assembly and examine all the moving parts for dirt and wear.

Buick Has Vibration After Rod and Piston Replacement

We have a 1942 Buick Special which had a burnt out rod and a scored cylinder.

What We Did:

After we installed a new rod and a new piston we found the engine had developed a vibration around 20 to 50 miles per hour. The cylinder in which we put the new rod is making a noise that sounds like the rod is loose again. Can you offer any suggestions on what might be the cause of this noise? Sub-

mitted by: Weiserman's Auto Service, Willlow Grove, Va.

We Suggest:

On your 1942 Buick, I was wondering if you checked the rest of the pistons on this job. In 1942 the '40 series used cast iron pistons and these pistons are almost a pound heavier than the aluminum type. So if an aluminum piston was used in this cylinder it would account for the vibration. As for the rod burning out, I would mike this journal and make sure it is not out of round and not scored. Also check the oil pump gears for wear and the end plates to make sure you are getting the proper oil pressure. I would also make an oil pressure test.

Chevrolet Truck Blows Head Gaskets Repeatedly

A few thousand miles back we did a ring and valve job on a 1947 Chevrolet truck. Since then it has had head gasket trouble. About seven have been replaced. We did not install the new gasket in any except the last two cases and then it was number five cylinder.

What We Did:

We dressed the head and block. We have always re-torqued the head. The last we worked on the Chevrolet we installed two gaskets. This apparently helped but don't know for how long. It should not be necessary. Apparently he has had no trouble before overhaul. Submitted by: Ralph Steele, Goehly's, Inc., Brewster, Washington.

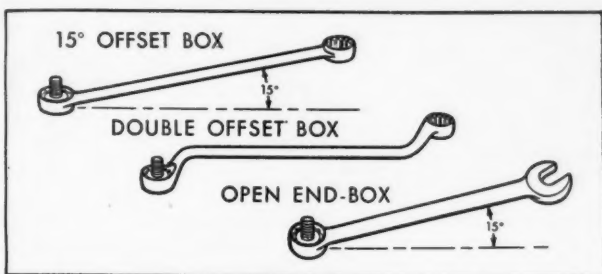
We Suggest:

Check this head on a surface plate to make sure it isn't warped. Also make sure that the head is tightened after the engine has been started and heated up. Torque not only the head but also the rocker arm brackets. Installing two head gaskets is not the answer and by so doing the compression will be lowered and this would cause the engine to lose power. Maybe the cylinder bolts are bottoming due to dirt and carbon getting into the thread holes.

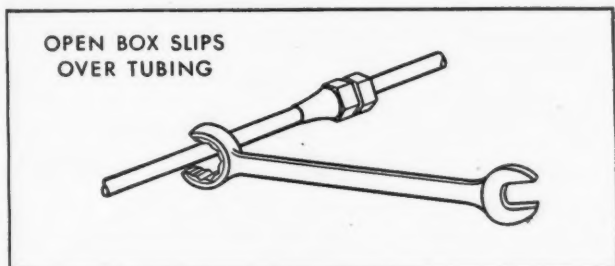
Memo to mechanics

How to do it right with WILLIAMS BOX WRENCHES

Williams Box Wrenches are extremely popular because their thin walls allow them to be operated in close quarters. A 12-point box wrench will continuously rotate a nut where the swing of the wrench is limited to only 30°. Since the nut is gripped on all sides slipping of the wrench is eliminated.

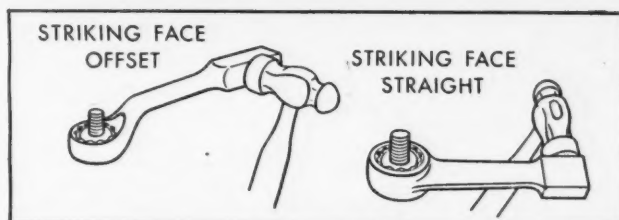
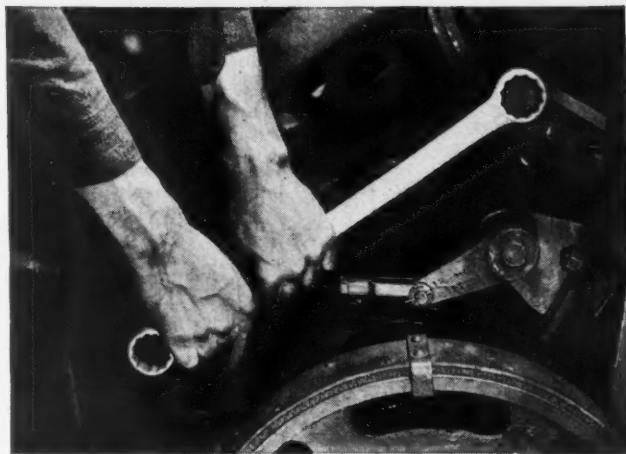


Most commonly used are the 15° offset and double offset box wrenches. They are offset in such a manner to provide clearance for obstructions in the working area and space for the mechanic's hand. Open-end box wrenches, having the same opening in each end, are particularly useful in tight corners. Where one head will not operate the other will.



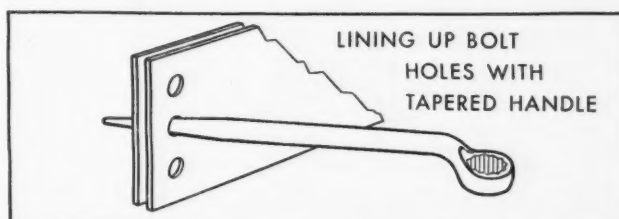
Flare Nut Pattern "Superrenches" are designed especially for use on non-ferrous flare nuts and fittings found on hydraulic and pneumatic tubing assemblies and air conditioning equipment. The 12-point open-box end slips over the tubing and has a thick head face, an assurance against marred fittings in final tightening.

Structural Box "Superrenches" have long sturdy handles for extra leverage on heavy work. Tapered



ends are easily inserted into bolt holes to bring them into line. Handles are offset to clear obstructions.

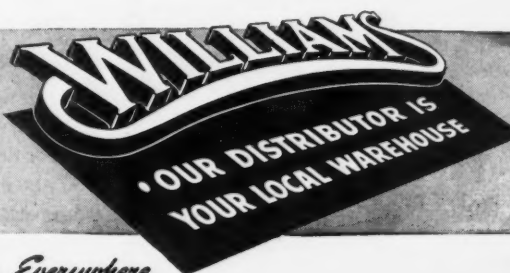
Williams Striking Face Box Wrenches are made in straight and offset patterns. They are designed for heavy work where large nuts must be set up tight or frozen nuts loosened.



All Williams Box Wrenches are drop-forged from selected steel and fully heat-treated for maximum strength.

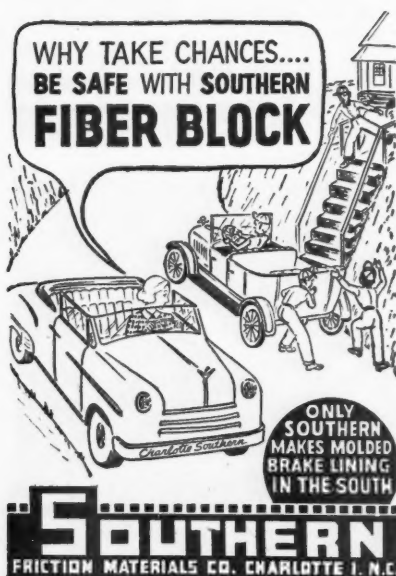
Copies of this and other "Memos to Mechanics" are available free upon request.

OPEN END, BOX, ADJUSTABLE & RATCHET WRENCHES; DETACHABLE SOCKETS & SETS; IMPACT SOCKETS; TOOL HOLDERS; LATHE DOGS, "C" CLAMPS; CHAIN PIPE TONGS & VISES; FLANGE JACKS; PLIERS; SCREWDRIVERS; PUNCHES & CHISELS; SOFT FACED HAMMERS; HOIST HOOKS; EYE BOLTS; ROD ENDS; CRANK & BALANCE HANDLES; THUMB SCREWS & NUTS; BODY & FENDER TOOLS.



J. H. WILLIAMS & CO., BUFFALO 7, N. Y. *Distributors Everywhere*

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**BE SAFE WITH SOUTHERN
FIBER BLOCK**



ONLY SOUTHERN
MAKES MOLDED
BRAKE LINING
IN THE SOUTH

SOUTHERN
FRICTION MATERIALS CO. CHARLOTTE 1, N.C.

**Genuine
SERVICE**
INDIANAPOLIS
"Measurably Better"
SPRINGS



SERVICE SPRING COMPANY
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WEED

SELL • SERVICE •
REPAIR •
TIRE CHAINS

Always Recommend
**WEED AMERICAN
V BAR-REINFORCED**
The Best Buy in
TIRE CHAINS



Reinforcing Bars on Cross
Chains Provide More Traction,
Greater Safety, Longer Mileage

RAMCO PISTON STABILIZERS

permanent piston
restoration calls
for an
**INSIDE
JOB!**



RAMSEY CORP.
ST. LOUIS 8, MO.

Calendar of Coming Events

Oct. 14-16—Tennessee Automotive Assn. convention, Buena Vista Hotel, Biloxi, Miss.

Oct. 15-16—1951 Fall Convention—Middle Atlantic Automotive Wholesalers Convention, Chalfonte-Haddon Hall, Atlantic City, N. J.

Oct. 21-23—Florida Automotive Dealers Assn., 1951 Annual Convention, Tampa Terrace Hotel, Tampa, Florida.

Oct. 21-23—Georgia Automobile Dealers Assn., General Ogelthorpe Hotel, Savannah, Ga.

Oct. 22-26—Annual Convention American Trucking Assn., Hotel Stevens, Chicago, Ill.

Oct. 24—Annual Meeting Equipment & Tool Institute, Hotel Sheraton, Chicago, Ill.

Oct. 24-31—Annual Meeting National Lubricating Grease Institute, Edgewater Hotel, Chicago, Ill.

Oct. 29-30—Annual Convention Ohio Automobile Dealers Assn., Dayton Biltmore Hotel, Dayton, Ohio.

Nov. 3-6—Texas Automotive Dealers Assn., Shamrock Hotel, Houston, Tex.

Nov. 4-5—Texas Used Car Dealers Assn., 1951 Convention, Waco, Texas.

Nov. 5-8—Annual Meeting American Petroleum Institute, Chicago, Ill.

Nov. 7-9—American Society of Body Engineers, 6th Annual Technical Convention, Rackham Memorial Building, Detroit, Mich.

Nov. 14-15—Annual Meeting of Oklahoma Automobile Dealers Assn., Skirvin Hotel, Oklahoma City, Okla.

Nov. 19-21—Automotive Trade Assn. of Virginia, John Marshall Hotel, Richmond, Va.

Nov. 27-29—Annual Convention of National Used Car Dealers Assn., Hotel Tampa, Terrace, Tampa, Fla.

Dec. 3-5—Annual Convention of Motor & Equipment Wholesalers Assn., Stevens Hotel, Chicago, Ill.

Dec. 6—Utah Automobile Dealers Assn. Convention.

Dec. 7-8—Annual Convention, Montana Automobile Dealers' Assn., Placer Hotel, Helena, Montana.

Jan. 27-30—NADA Convention, Waldorf-Astoria Hotel, New York City.

Feb. 28-March 2—1952 Pacific Automotive Show, Pan Pacific Auditorium, Los Angeles, Calif.

March 20-23—10th Annual Southwest Automobile Show, Sam Houston Coliseum, Houston, Texas.

March 29-April 6—1952 Seattle Auto Show, sponsored by Seattle Automobile Dealers Assn., Field Artillery Armory, Seattle, Wash.

GM Gets Fast Writeoff On Defense Plants

General Motors has received certificates of necessity for defense production plants in four cities. The certificates provide for fast amortization of GM's investments in these plants, which is said to total more than \$50 million.

MORE MONEY for you and your mechanics

Mechanics are faster on their feet than on their backs. Time studies show that with Globe Hoists every mechanic can do 10 hours' work in 8 hours.

Figure that in terms of the extra jobs you can turn out every day. You will see why Globe Hoists quickly pay for themselves, and earn extra money for you and your mechanics.

(Write for illustrated bulletin MA-315)

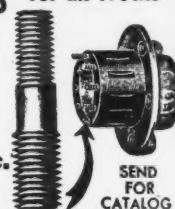
GLOBE HOIST COMPANY
1000 E. MERMAID LANE, PHILA. 18, PA.
(Factories at Des Moines, Iowa and Phila., Pa.)

OVERSIZE REAR WHEEL STUDS for all Trucks

Order from Your Jobber



CHAMP-ITEMS, Inc.
6191 Maple Ave.
St. Louis 14, Mo.



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FOR
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HAVE YOU A JOB FOR A TRAINED MECHANIC?

We have a number of alert young men who have completed intensive training in Automotive Mechanics, Automatic Transmissions and Body-Fender Rebuilding. They learned their trades thoroughly by working on actual equipment under personal, expert supervision. If you need a trained man, we invite you to write for an outline of our course, and for a prospectus of the graduate. No fees, of course. Address:

Placement Manager, Dept. P102-10

COMMERCIAL TRADES INSTITUTE
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The "Name" Makes Sales Easier



BONNEY FORGE & TOOL WORKS
ALLENTOWN, PENNSYLVANIA

JIBO WHEEL ALIGNMENT CAMBER TOOL—FITS ALL CARS—NEW OR OLD


Mfg. under patent rights. Money back guarantee if not satisfied.

J-O-10 Increasing camber complete with J-O-12 Jaw \$34.00
J-O-13 Jaw for lighter spindles\$12.50
J-O-14 Decreasing att. \$12.50



CASTOR SHIMS—5 degrees or thickness
AXLE SHIMS—1 1/4 to 4" in all degrees
COIL SPRING SPACERS—top or bottom, contour or flat, for all cars

Ask your jobber or write direct
JIBO TOOL CO., 507 Bitting Bldg., Wichita, Kan.



I'll bet you this time
he buys a Fiberglas
DOUBLE-INSULATED battery!

Right, Mr. Dealer...
if you're ready to sell it

If you're displaying batteries that are double-insulated with Fiberglas* Battery Retainer Mats . . . if you're ready with the story of their longer life . . . *then you're going to make a sale of one of your top-profit batteries.* It's easier than ever, today, to do this. People have proved they're ready, willing and able to pay a little extra for longer battery life. Be sure you cash in . . . with Fiberglas double-insulated batteries. Owens-Corning Fiberglas Corporation, Department 50-J, Toledo 1, Ohio.

*FIBERGLAS is the trade-mark (Reg. U.S. Pat. Off.) of Owens-Corning Fiberglas Corporation for products made of or with glass fibers.

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IS IN YOUR LIFE . . . FOR GOOD

AT LAST...

A Shock Absorber that Sells Itself!

You don't have to use high pressure tactics to sell

COLUMBUS
Luxury-ride SHOCK ABSORBER

LICENSED BY DE CARBON

One demonstration convinces the skeptic. He, in turn, sells his friends and starts a chain reaction. Everyone benefits, including you, the dealer. The Columbus Luxury-ride Shock Absorber is the only *completely different* shock absorber now on sale. It has 17 superior features. Tests prove that it will out-perform and outlast competitive types on today's market. Heavy duty throughout, it is priced competitively with conventional shock absorbers.

**Don't delay.
See your jobber today.**

*"The Shock Absorber that Outsmarts
the Highways"*

MANUFACTURED BY HECKETHORN MFG. & SUPPLY CO., LITTLETON, COLORADO

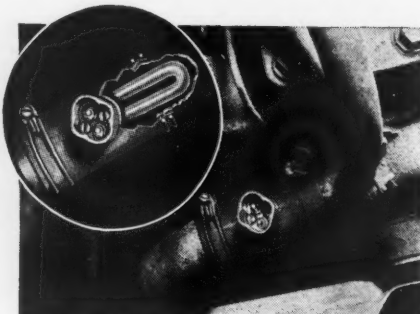


75,000 Sales First Time on the Market! G-E Calrod Engine Heaters Move Fast in 38 States

*Registered trademark



Model CGE-368, for all Chevrolets, fits right between cylinder walls



Model CGE-367, for all cars except Chevrolet, Nash 600, and Studebaker Six, fits in lower radiator hose

75,000 sales without advertising! When G-E Calrod* engine heaters were marketed in U.S. for first time last year, customers in 38 states grabbed them up—without ever hearing about them before!

And in Canada, where the heaters were originally marketed, last year's sales alone were over 100,000.

Every anti-freeze customer is a prospect for this new, fast-moving heater that pre-warms car engines for quick, easy starting even in cold weather.



Calrod Engine Heater

Pre-warms Car Engines for Fast Starts in Cold Weather

- Warms oil to reduce engine wear
- Lowers starting load on battery
- Speeds warm-up of car heater
- Quickly and easily installed
- Plugs into standard electric outlets
- Prevents condensation on spark plugs

Brand new 1951 promotion will make greater sales!

Here's what General Electric has for dealers to build Calrod engine heater sales: Big, new 12x36-inch window streamer—six-page counter handout—colorful display cartons—big ad series in Saturday Evening Post—radio spot announcements—ad mats for dealers to tie-in with other promotion!



ADVERTISED IN
THE SATURDAY EVENING
POST

Box 1441

H-674-71E

Chicago, Ill.

☐ I'd like more information on G-E Calrod engine heaters

☐ Tell me how I can add G-E Calrod engine heaters to my present line of winter driving aids.

Name.....

Business Address.....

City..... Zone..... State.....

GENERAL  ELECTRIC

OLDSMOBILE'S
FLASHING SUPER "88"
SKYROCKETS TO A
NEW HIGH IN
PUBLIC ACCLAIM!



Above, Oldsmobile Super "88" 2-Door Sedan.

Product of General Motors

"ROCKET" OLDSMOBILE

Up . . up . . up . . soars the popularity of Oldsmobile! That's because people everywhere know that Oldsmobile's new Super "88" is a *super value* among motor cars! For here is a car with a combination of up-to-the-minute features that no other make can match—a combination of features that can't be beat! "Rocket" Engine! Oldsmobile Hydra-Matic! New Body by Fisher! Rugged new chassis! That's why Oldsmobile dealers are sure —*It's smarter than ever to be with Olds!*

OLDSMOBILE DIVISION • GENERAL MOTORS CORPORATION • LANSING 21, MICHIGAN

Chilton's MOTOR AGE, OCTOBER, 1951

For **LEAKPROOF** Hose Connections **WITTEK** AUTOMOTIVE HOSE CLAMPS

For All Automotive Replacement Uses

With a variety of sizes and types, there is a Wittek Hose Clamp for every hose connection. Easily and quickly applied or removed. See your jobber, or write for details.



Sure-Tite Display Package
100 clamps for every size of radiator hose.

NOC-OUT



Noc-Out Display Package
100 clamps in types and sizes for every application.

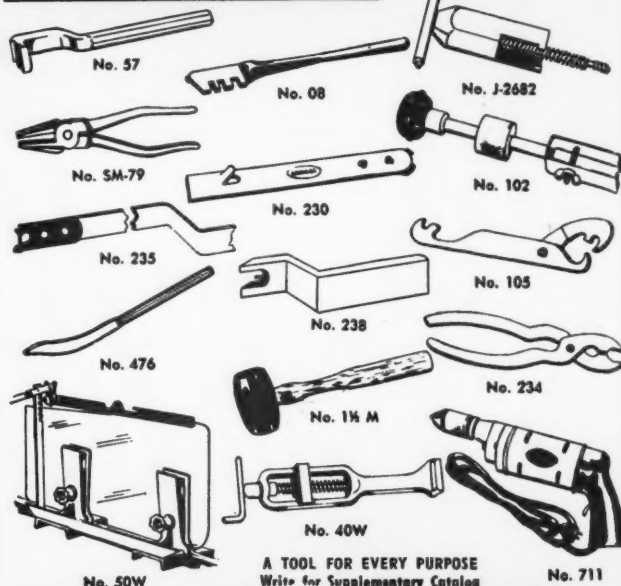
WITTEK Manufacturing Co.
4333 W. 24th Place, Chicago 23, Illinois

Dependable Hose Connections for Over a Quarter Century

**Automotive
HOSE
CLAMPS**

SOMACA

TOOLS FOR AUTO GLASS INSTALLATION



SOMMER & MACA Glass Machinery Co.

Automotive Department

3624 SOUTH OAKLEY AVENUE CHICAGO 9, ILLINOIS

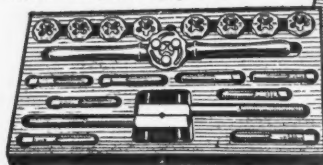
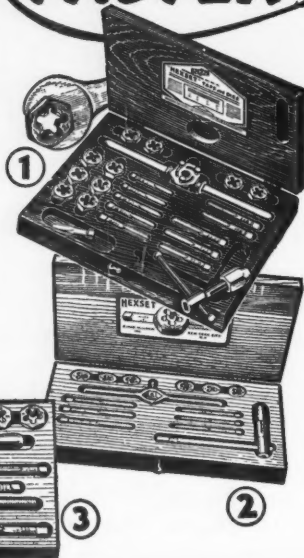
RIMAC HEXSET TAPS & DIES

ENABLE YOU TO RETHREAD IN CLOSE QUARTERS FASTER

THESE three neat, compact RIMAC Hex-sets are the answer to every mechanic's prayer. Ideal for those difficult rethreading operations in close cramped quarters and for cutting new threads.

- 1—Rimac No. 77 Hexset—11 one-inch Hex dies, 11 taps $\frac{1}{8}$ " to $\frac{1}{2}$ " NC and NF, also $\frac{1}{4}$ " pipe thread, 9" Hex Die Stock, with guides for starting new threads, T Handle Tap Wrench.
- 2—Rimac No. 73 Hexset—Set includes Sliding T handle tap wrench; 9" Hex die stock; and six taps and dies. All dies have $\frac{1}{8}$ " hex outside diameter.
- 3—Rimac No. 78 Hexset—Contains 8 taps and 8 hex dies— $\frac{1}{8}$ ", $9/16$ ", $\frac{1}{2}$ " & $\frac{3}{4}$ " in both coarse and fine thread. Dies are $1\frac{7}{16}$ " outside diameter; 14" Hex die stock with guides for starting new threads. 16" tap and reamer wrench.

Write for catalog today on the complete Rimac Line.
RINCK-McILWAINE, INC.
16 Hudson Street, New York, N. Y.



CALL THE JOBBER
WHO SELLS

US AXLES!

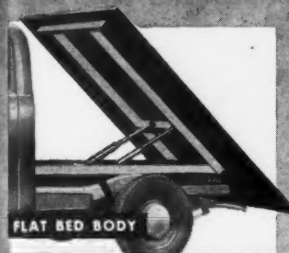
You can get replacement Axle Shafts for early model or late model cars, trucks or buses. Why waste time, simply call the jobber who sells US AXLES. He carries a complete stock.

THE U. S. AXLE COMPANY Inc.
POTTSTOWN, PA.

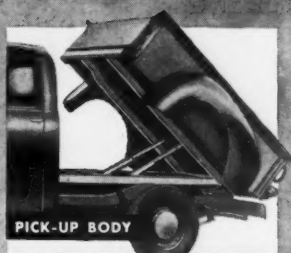


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- IN DEMAND
- IN SALES
- IN PROFITS



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PICK-UP BODY

CONVERTO *picUPac* HOISTS

Cash in on extra profits by selling the Converto picUPac Hoist, designed for quick installation on any pick-up truck or flat bed body. Converts ordinary vehicles into serving hundreds of uses. The picUPac stands up under the toughest hauling and dumping operations. Comes equipped with electrically driven or manually operated Blackhawk Pump. Here's a unit your customers need. Ask your distributor for complete information.

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MANUFACTURING CO.

WRITE FOR FREE FOLDER

CAMBRIDGE CITY, IND.

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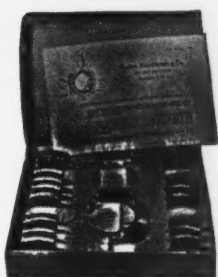


ALL of the crankpins can be trued with Journalizers on any make car or truck without removing the crankshaft, cylinder head, knee action, axle, steering, oil lines, counterweights or engine supports. Simply remove the oil pan and spark plugs, install Journalizer in place of engine bearing and the starter motor does the work. Tool is supplied with coarse and fine replaceable inserts for rough cutting and polishing.



FOR FAST, ACCURATE, ECONOMICAL CRANKSHAFT TRUING

No special skill is required to HONE journals to a smooth round finish to give lasting bearing performance.



Journalizer will true No. 1 journal on ALL engines. "Universal Kit" of five sizes service passenger cars and most trucks (excepting Ford V8) \$35.00 For individual kits (\$7.00 each) specify engine and model when ordering.

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for modern body finishing

FASTER
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PROTECT-A-FENDER MAT

Cannot slide or slip • Impervious to grease, oil and acid • Easily cleaned with soap and water.

Write for detailed
information

"PRUDEN TOOLS ARE PROVEN TOOLS"



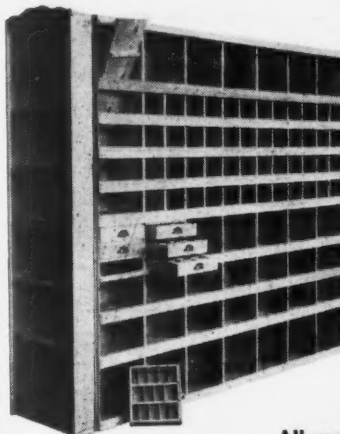
PRUDEN TOOL CO., Inc.

310 West 68th St. • New York 23, N. Y.
SUquehanna 7-7055

SOLD THROUGH JOBBERS ONLY

ECONOMY STOCK BINS

4 sizes—65 to 130 compartments



• Available for immediate shipment, these sturdy parts bins are shipped unpainted and knocked down to carry a low freight rate, but are quickly and easily assembled on your floor.

The chest of 3 drawers, shipped completely assembled, fits into any one of the compartments on the fourth tier. Each drawer divides into fourteen sections through use of removable partitions. The adjustable end shelves are optional. They cover the ends of two parts bins placed back to back.

All models 84 1/2" high and 12" deep.

Style	Length	No. of Compartments	Approx. Wt. lbs.	Price—F.O.B. Rockford, Ill.
5B	5'8"	65	200	\$28.80
7B	7'11"	91	265	39.80
9B	10'2"	117	345	51.40
10B	11'3"	130	390	57.00
Chest of 3 drawers (optional)			12	4.40
End shelves (optional)			30	4.30

MILLER WOOD PRODUCTS CO.

Greater Rockford Airport

ROCKFORD, ILLINOIS

THE NEWEST IDEAS IN BATTERY CHARGING



from the
Oldest
Company
in the
Business

LOW COST, AND WHAT PERFORMANCE!

For fast charging, slow charging, trickle charging! Easily carried in one hand! Absolutely safe! Automatic reset circuit breaker, automatic taper! Fully approved by Underwriters' Laboratories, the Canadian Standards Association, and

GUARANTEED A LIFETIME...

Perfect for the car dealer, service station, garage, farm trade, home owner, emergency trucks. Five different Silver Beauty styles to answer every charging need. See your jobber.



Triple-A

SPECIALTY COMPANY

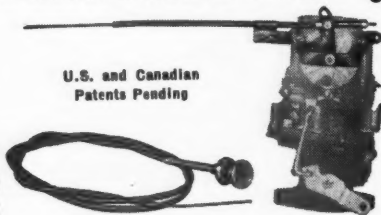
2101 WEST WALNUT STREET • CHICAGO 12, ILLINOIS
TELEPHONE SEELY 3-0466 • CABLE ADDRESS "TRIACOT"

Aldo

have the
**Spring Loaded
Device**

MANUAL CHOKE CONVERSION KITS

U.S. and Canadian
Patents Pending



- Our patented spring loaded device assures proper carburetor mixture, giving quicker, easier starting. Installs without removing carburetor. Fully guaranteed.

- Also Mfrs. of Complete Line of Universal Hood and Choke Controls.

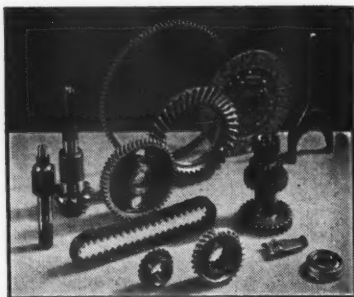
**Superior Screw
& Mfg. Co., Inc.**

1227 W. Henderson Chicago, Ill.



**PERFECTION
PARTS**

are
Certified to excel



PERFECTION GEAR CO.
HARVEY, ILLINOIS

One Man

Toe-In Measuring Gauge!

\$7.95

Quicker and Easier to Use!



Only
10 Inches
Long

The Micro-Linor Toe-In Measuring Gauge requires only one man to operate it. Just attach the grippers to the rims and take front reading. Then roll vehicle forward and take rear reading. Quicker — because gauge remains in same spot for both readings. All done in less than 2 minutes. Simple. Extremely accurate. Fits any vehicle. Every mechanic should own one.

MICRO-LINOR SERVICE

1017 Dime Bldg.

Detroit 26, Mich.

*Write for
Literature*

Classified Advertisements

COIL-CONDENSER TESTERS; closeout, Reg. \$42.50. Now \$12.95, moneyback guarantee. Also Battery Tester, with meter, closeout \$4.95. Model Electric Prod., Asbury Pk., N. J.

SALES REPRESENTATIVES: We need Salesmen in many territories to sell Hellwig Spring Stabilizers and Overload Springs to new car dealers, garages and super-service stations—a big market with big profits. Hellwig Spring Stabilizers and Overload Springs correct weak, sagged springs, make old cars ride like new, make new cars easier riding, safer to drive. Hellwig Spring Stabilizers and Overload Springs are known and used everywhere. A real opportunity for salesmen who know their business. Write Today: Give lines handled and territory covered. New car dealers are also invited to write for literature and prices. Hellwig Products Company, Inc., 6231 San Fernando Road, Glendale 1, Calif.

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MOTOR AGE

—is a publication keyed
directly to the needs of the
automotive after-market.
Built on the requirements
of car dealers and repair
shops. Edited by Frank
P. Tighe. Read it every
month.



A Chilton Publication

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PHILADELPHIA 39, PA.

NO MORE CARBON SCRAPING



"DUNK
AND
DRIER
BASKET
INCLUDED

*Nothing
Decarbonizes
and Cleans
CARBURETORS,
FUEL PUMPS,
PARTS
Like...*

U. S. PAT. #2318842
GUNK DUNK BENCH Carburetor and
Parts Cleaning Kit
New 8 1/2 gal. size deep "Vapor-
catcher" design pail.

**New—Improved—
More Potent***

GUNK HYDRO-SEAL

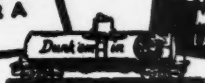
**A WORD OF
CAUTION**
If it doesn't bear
the Genuine GUNK
trademark, it may
be a partly diluted
imitation—and will
not give you the
Safety and Advan-
tages of Genuine
GUNK and should
be flatly refused.

- *1. Faster . . . Terrific penetration . . . new im-
proved odor.
2. Quickly digests and removes carbon gum, paint,
lead, makes possible accurate visual inspection
and fitting of delicate metering mechanisms,
jets, orifices and diesel nozzles . . . without
etching.
3. Lasts more than one year . . . due to water
blanket.
4. Works hot or cold . . . Rinses wet or dry.
5. Patented Double Barrel Performance Guaranteed.

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Write for Name of Nearest Stocking Jobber
Flatly Refuse Substitute Imitations

IMMEDIATE DELIVERY
1 GALLON OR A
TANK CAR



CURRAN CORP.
Mfg. Chemists
LAWRENCE, MASS.

**Hold Most
Any Shape with**

Aero-Seal HOSE CLAMPS

**The Universal
Worm Drive
Clamp**



Pull an Aero-Seal clamp tight—
it will never let go. Vibration proof.
No distortion at point of clamping.
Conforms easily to any shape, locking
multiple pipes or ducts together,
clamping odd-sized connections. Stainless
steel—resists corrosion. Available
in screwdriver or thumbclamp types.
Write for free sample.



BREEZE CORPORATIONS, INC.

40 South Sixth St., Newark 7, N. J.



BONDING a BRAKE SHOE is a MANUFACTURING JOB!

The Miley method of bonding shoes
is the **ONLY** one using an absolutely
uncured lining. This means:

- 1) No squeaks, no powdering.
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in **ONE** baking operation.
- 3) Brakes get a closer, tighter
fit.
- 4) Your customers get a quicker,
safer stop with longer mileage.

So—let your Miley Jobber or Rebuilder do your
Mileybonding for you—they can do it
easier, faster, cheaper, with greater profit
to you.

**Mileybond is your Bond for
Safety—Satisfaction**

L. J. MILEY CO.

Manufacturers of
Brake Lining, Brake Shoes, Re-built Cylinders
18 S. SANGAMON, CHICAGO 7, ILL.

"NATIONAL" DOES IT AGAIN NOW! A Disappearing Tube— Concealed Overhead Unit to Get Rid of Gas Fumes

What you have been waiting for—the final, successful
solution to your garage ventilating problem—all avail-
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ready to install.

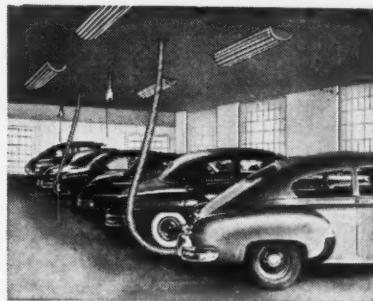
- Makes More Head Room
- Handsome—Blends Into Architecture
- Tubes Concealed When Not in Use

Standard Kit — 2 in-
lets serving any two
of 4 cars in a row.

\$284⁵⁰

F.O.B. Decatur.

Additional car
service inlets
\$64.55 each.



National also makes complete packaged kits for underfloor
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and accessories are also available. Discuss your carbon
monoxide problem with National's nearby representative—
No obligation. Write today.

Architects and Builders please refer to Sweet's Catalog.

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World's Largest Manufacturer of Exclusive Garage Ventilating Equipment
Dept. 3-J, 318-330 N. Church St., Decatur, Illinois

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AAA CERTIFIES* NEW SUNOCO MOTOR OIL



- *for Long Mileage!
- *Engine Cleanliness!
- *Long Engine Life!

NEW Premium Heavy-Duty Sunoco Dynalube is one of the very few motor oils that meet or exceed manufacturers' recommendations for all 1951 passenger cars

Compare with any other motor oil these features listed on every can of NEW Dynalube:

1. Tough Heat-Resistant Body assures long motor oil mileage.

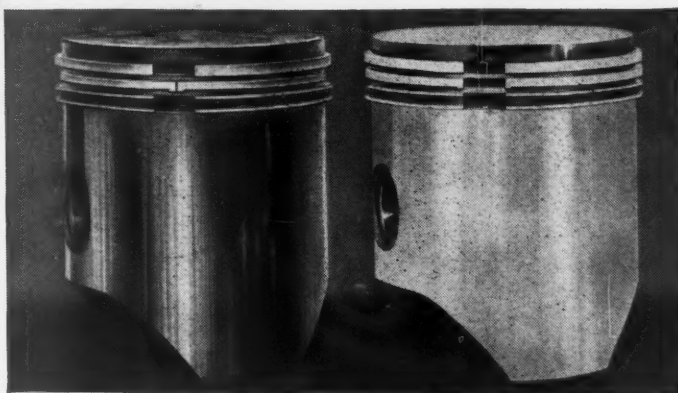
2. Fully Detergent-Dispersant—NEW Sunoco Dynalube cleans engines and keeps them clean. Road dust and contamination from normal combustion are held in practically harmless suspension until oil is drained at the regular interval. (For maximum protection we recommend a complete oil change every 1000 miles.)

3. Free-Flowing and Metal-Clinging qualities of NEW Sunoco Dynalube prolong engine life.

4. Anti-Rust and Anti-Acid—NEW Sunoco Dynalube counteracts two of the greatest causes of wear in the vital combustion chamber areas of any engine.

5. High Film Strength and Ring-Sealing Action—insure longer-lasting engine efficiency.

NEW Premium Heavy-Duty Motor Oil Combines in a Single Oil All the Finest Features of America's Premium Motor Oils... Actually Improves the Condition of Most Engines.

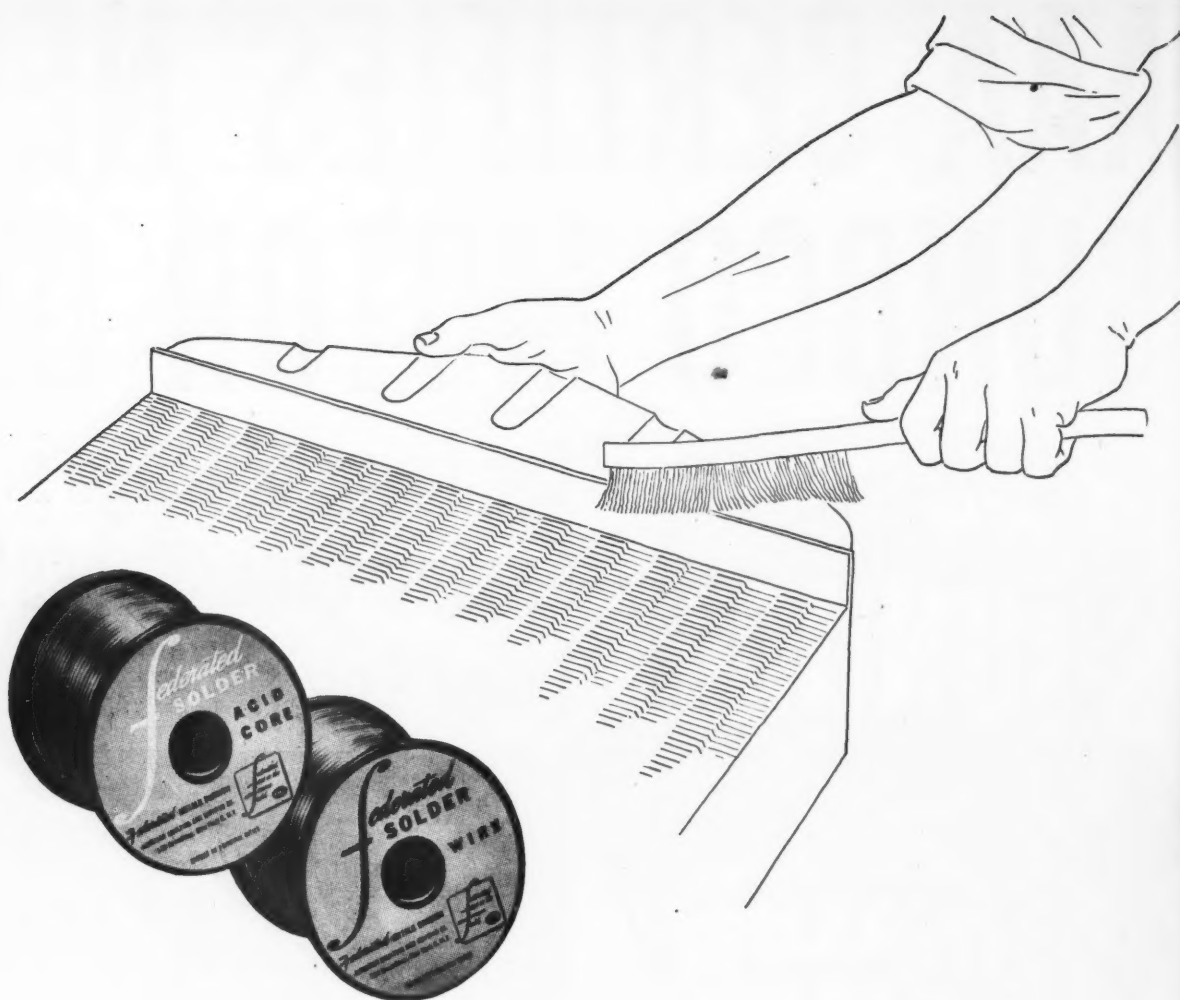


CLEAN PISTON at right shows how NEW Sunoco Dynalube keeps rings free-acting... keeps combustion chamber deposits to a minimum. Foul'd piston with stuck rings, at left, resulted from use of inferior motor oils. To prolong engine life... assure top performance... recommend NEW Sunoco Dynalube.



LAB FINDINGS. Valve on left shows heavy deposits resulting from use of inferior oils—a common cause of sluggish action and poor valve seating. Clean valve on right shows how NEW Sunoco Dynalube helps engines stay remarkably clean... keeps valves free-acting... maintains full engine power. **HYDRAULIC VALVE LIFTERS**, in particular, need the extra detergent-cleansing protection of this new heavy-duty premium motor oil... another important reason why motorists owning cars equipped with hydraulic valve lifters should change to NEW Dynalube.

***Memo to CAR DEALERS:** Recommend NEW Sunoco Dynalube... the motor oil road-tested and certified by the American Automobile Association. To insure better satisfied customers and longer lasting efficiency in every new car you sell, do as more and more new car dealers are doing, recommend NEW Sunoco Dynalube exclusively.



HOW TO SOLDER BETTER...AND SAVE METAL!

Make the joint tight and permanent *the first time* by using the right solder and the right method of soldering.

HOW TO USE . . .

Always be sure to clean *thoroughly* the surfaces to be soldered. Remove all traces of paint, grease, rust, or other metallic oxides. Use an abrasive such as sandpaper, steel wool, a file, or a wire brush to clean well. Solder sticks best to the bare metal.

WHAT TO USE . . .

The solder you use may prove to be the difference between a job's success or failure . . . between having to do it once, or over and over again. *To be sure*, use the best solder . . . Federated Solder.

Federated® Solder is available in all commercial sizes, compositions and wire dimensions. Analysis of solder prominently displayed on box. Listed by Underwriters' Laboratories Inc.

Federated Metals Division



AMERICAN SMELTING AND REFINING COMPANY • 120 BROADWAY, NEW YORK 5, N. Y.

here's the 12-Year Tested Recipe

for correcting engine conditions with

1 All-Purpose ring set!

Piston Rings

1st CAST IRON

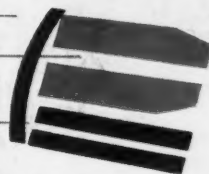


FOR GENTLE, QUICK SEATING nothing is kinder to cylinder walls than cast iron... that's why the Ramco Inner-Ring Contacts only the cast-iron section during the seating period.



Piston Rings

2nd CAST IRON + STEEL



FOR LONG LIFE... double life... Ramco distributes the wall pressures over multiple areas of both cast iron and steel thus placing major reliance on stabilization rather than excessive pressures on steel rails.

Ramco's original Double-Life Principle places initial reliance on gentle cast-iron...
so that **RAMCO ACTUALLY CURBS WEAR**



RAMCO RE-POWERING*
Program Helps You to
Help America Fight
Premature Engine Wear

Use the Ramco RE-POWERING Program to show customers that oil pumping is a warning sign which, if unheeded, will result in Premature Engine Wear. Sign up for the RE-POWERING Station Sign. Get the help of this nationally advertised program to sell more piston rings, Carburetion, Ignition, and Cooling services. See your Ramco Jobber Today.

*Nationally Advertised in

POST

Cutter's

POPULAR

LIFE

12 YEARS AGO Ramco originated the double-life principle. Its purpose was to enable you to install an all-purpose ring set in any job that could be corrected with piston rings... and have it function without harsh pressures.

The millions of installations since then have completely tested the Ramco Principle. Through the years Ramsey Engineering has constantly worked at the perfection of the principle but today as 12 years ago... its basic fundamentals are unchanged.

They are: *Cast-iron* for quick seating... *combination steel and cast-iron* for long life... and *self adjustment of wall pressures* to the degree of cylinder wear.

See your Ramco Jobber for the full story or write RAMSEY CORPORATION, St. Louis, Missouri.

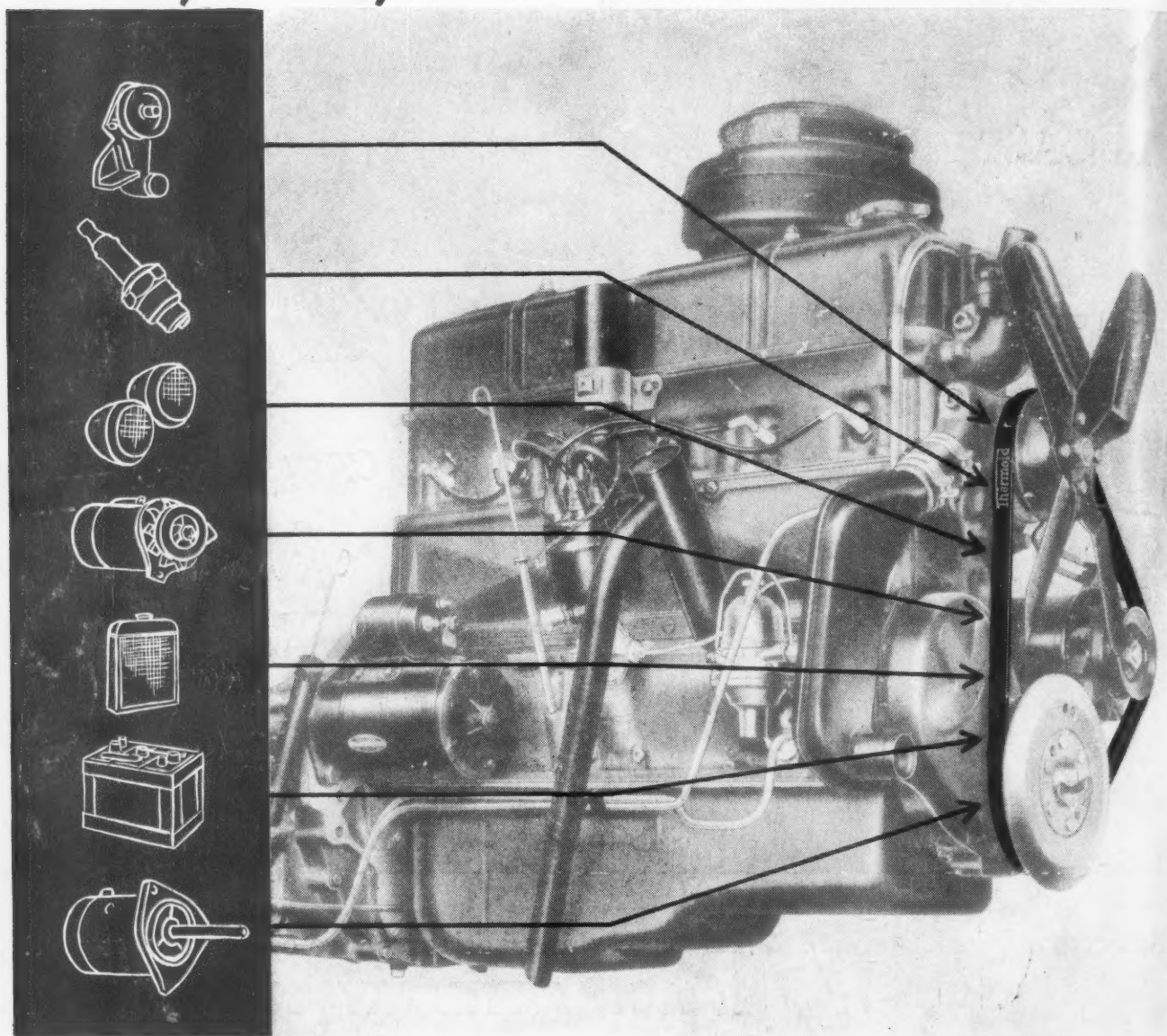
RAMCO 10^{up} all purpose RINGS

Right for ANY Job
Re-Bore or Re-Ring • Car • Truck • Bus • Tractor



St. Louis 8, Missouri, A subsidiary of Thompson Products, Inc.

Everything hangs on the Fan Belt



Thermoid Fan Belts
are "a horse of a
different color"



Replace the fan belt before it fails . . . don't let 'em hang fan belt failure on YOU

Remember, everything hangs on the fan belt—cooling, ignition and lighting systems. When a broken fan belt leaves one of your customers stalled on the road, does he blame the fan belt? He does not. He hangs it on you.

Always replace fan belts *before* they fail. Make your replacements with Thermoid Fan Belts—pre-stretched to insure last-

ing fit. Since Thermoid Fan Belts can't stretch, they don't slip—so they last longer—give more dependable service.

Automotive engineers say: "Play safe. Replace fan belts every two years—or every 20,000 miles." Follow their advice. It's good service to your customers and good business for you.

Thermoid Company • Trenton, New Jersey

Thermoid

Brake Linings • Fan Belts • Radiator Hose • Hydraulic Brake Parts and Fluid • Car Mats • Clutch Facings • Thermoid Precision Process Equipment